

12U GW600-Series Wall Mount Cabinet with Glass Front Door



GW600-Series Wall Mount Cabinet

The Wall Mount Cabinet is designed to house EIA-standard 19-inch rack equipment in network wiring closets, retail locations, classrooms, back offices and other areas with limited floor space where you need equipment to be secure, organized and out of the way. Constructed from heavy-duty steel with a durable black powder-coated finish, the cabinet has a maximum load capacity of 132.3lbs.

Key Features

1. Removable Side Panel

Removable side panels are perfect for retrofit equipment and cabling.



2. Top and Bottom Panel

Convenient top and bottom ports allow easy cable routing.



3. Mounting Rail

Square mounting holes make equipment installation easy.



4. Wall-mounting Hole

Wall-mounting holes space 19.21" apart for wall stud placement.



5. Grounding Wire

Grounded to the cabinet frame and protect people and device.



6. Door Lock

Door locks securely to help prevent damage, tampering or theft.



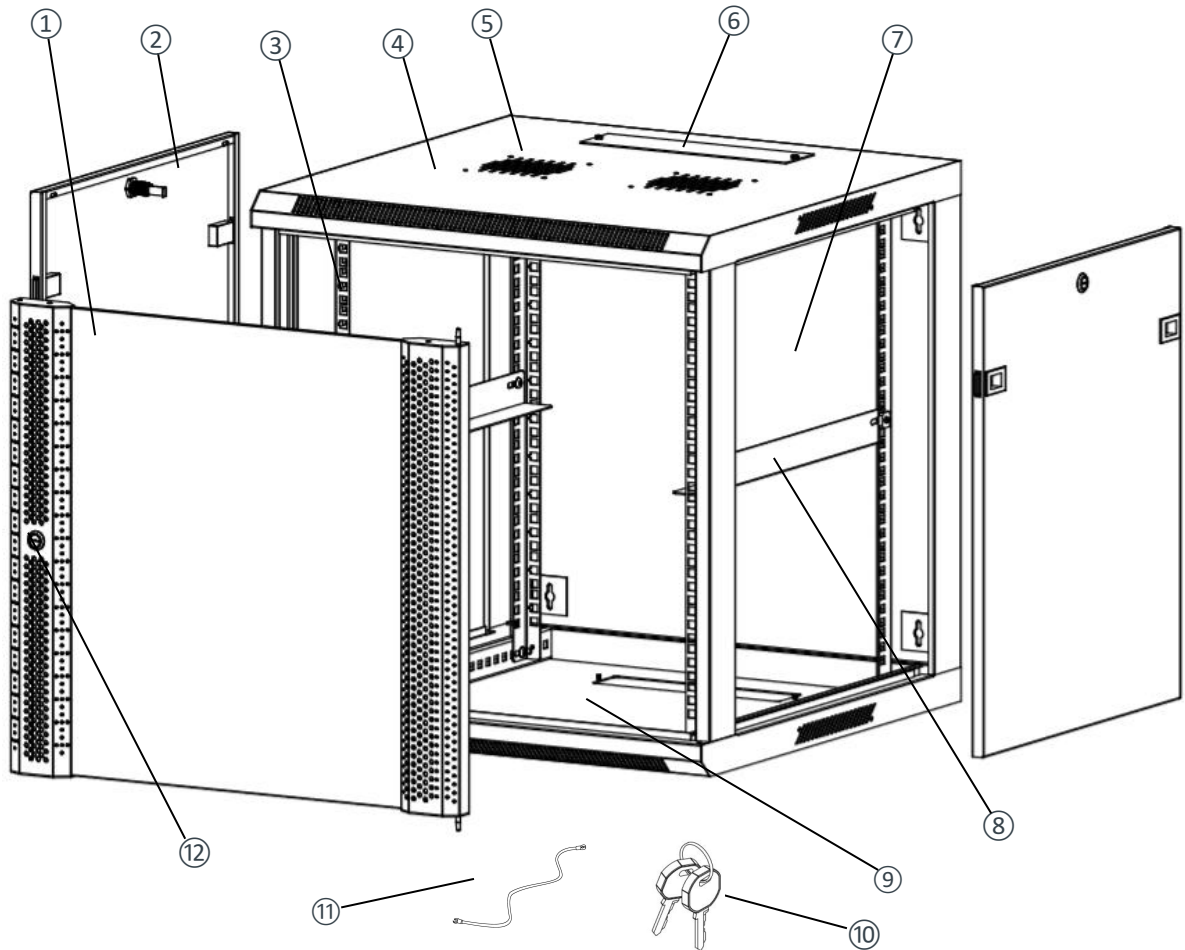
Technical Specification

Product Type	Wall Mount Cabinet
No. of Rack Spaces	12U
Maximum Height	25.12" (638mm)
Maximum Depth	23.62" (600mm)
Maximum Width	24.02" (610mm)
Available Maximum Depth	21.65" (550mm)
Color	Black
Front Door	Glass
Rear Door	SPCC
Side Panel	SPCC
Static Load Capacity	132.3lbs (60kg)
Grounding Wire	Front door frames
Shipment	Fully assembled

Compliant

ANSI/EIA RS-310-D, IEC297-2, DIN 41491;
PART1, DIN41494; PART 7, GB/T3047.2-92, ETSI Standard

Assembly Structure Illustration

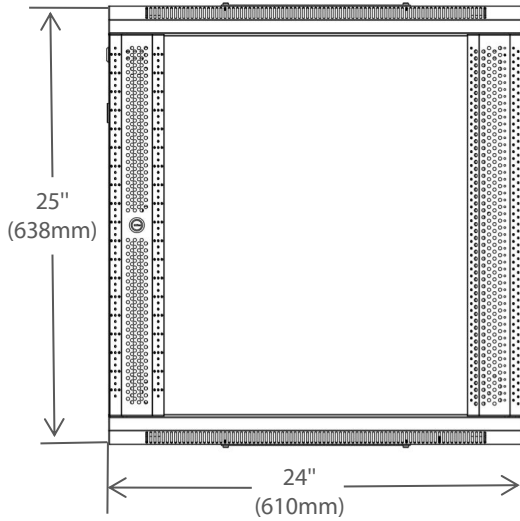


- | | |
|---------------------------------|--------------------------------|
| ① Glass Front Door (x1) | ⑦ Back Panel (x1) |
| ② Side Panel (x2) | ⑧ L Type Mounting Bracket (x2) |
| ③ Adjustable Mounting Rail (x4) | ⑨ Bottom Panel (x1) |
| ④ Top Panel (x1) | ⑩ Key (x2) |
| ⑤ Ventilation Fan Port (x4) | ⑪ Grounding Wire (x1) |
| ⑥ Cable Access Port Cover (x2) | ⑫ Lock (x3) |

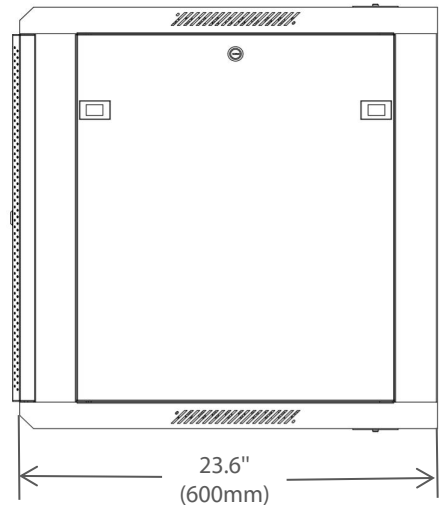
Accessories

- Expansion Screws (x4)
- Fork Wrench (x1)
- Installation Instruction (x1)
- M6 Screws, Nut and Cup Washer (x8)
- Phillips-head Screwdriver (x1)

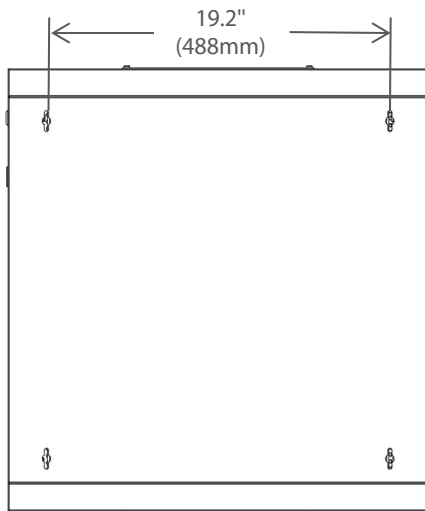
Cabinet Dimension Illustration



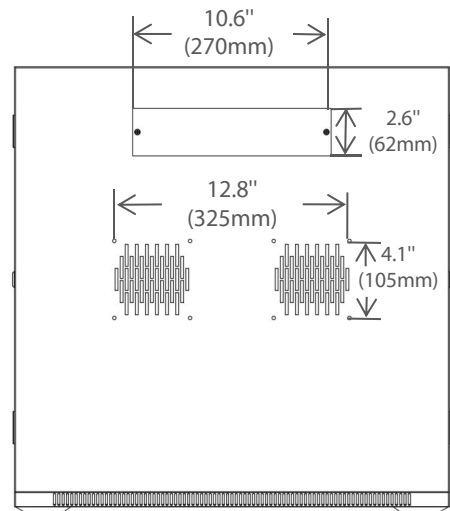
Front



Side



Back



Top




Cabinet Application

Wall-mount cabinet secures and organizes 12U of 19-inch rack equipment in network closets, classrooms and other locations with limited floor space. Houses switches and patch panel up to 21.7 inches deep.








Product Options in this Cabinet

FS offers a full line of products and options that include switch, patch panel and others to help perfect your wall mount network cabinet.

Picture	ID No.	Description
	#73457	8-Port Gigabit PoE+ Managed Switch with 2 SFP, 150W
	#69180	1U 24 Ports Cat6 Unshielded Feed-Through High Quality Patch Panel
	#29038	1U Plastic Single Sided Horizontal Cable Manager with Finger Duct
	#66742	6in (0.15m) Cat6 Snagless Unshielded (UTP) PVC CM Slim Ethernet Network Patch Cable, Blue

Mounting Hardware

Shelves and mounting accessories to aid in the installation of IT equipment and secure racks into position.

Picture	ID No.	Description
	#72752	1U 19" Tool-Less Snap-In Blanking Panel can reduce by pass airflow through open spaces
	#72753	1U 19" Rack Blanking Panel creates a clean and professional look by covering empty rack space
	#71024	1U 19" Vented Cantilever Fixed Shelf supports up to 22lbs and mounting in cabinets as deep as 10"
	#28952	Anti-Static Wrist Strap protects your sensitive hardware from static electricity
	#14101	M6 Model Screw and Nut installs your rack-mountable hardware securely



 <https://www.fs.com>



The information in this document is subject to change without notice. FS has made all efforts to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty.

AC-224AP Wireless LAN Controller Datasheet

Wireless LAN Controller with 224 AP License



Overview

The AC-224AP Wireless Controller is a centralized wireless LAN manager developed specifically for campuses, branch offices, and businesses. It can manage up to 224 access points, achieving integrated access for wired and wireless users and can be used to construct campus networks, enterprise office networks, wireless Metropolitan Area Networks (MANs), and hotspot coverage networks.

This controller can realize the seamless roaming of wireless users in the process of crossing different areas of the entire network, meet the security and session integrity in mobile roaming, and fully meet the data interaction and smooth voice of Wi-Fi voice communication.

Benefits

- Manage up to 224 Wireless APs
- Manage up to 7168 Clients
- Layer 2 or Layer 3 Network
- Wireless Intrusion Detection System (WIDS)
- Rogue AP Detection & Classification
- 802.1x Authentication
- Web, SNMPv1/v2c/v3, Telnet
- Support Bypass and Bridge Network Modes

Key Features

Smart Wireless Experience

- **Intelligent Identification of Smart Devices**

The Wireless Controller with built-in portal server intelligently identifies the type of smart device. The intelligent identification of smart devices eliminates the trouble of screen size adjustment and offers better wireless user experience.

- **Fair Scheduling**

The Wireless Controller supports equal access time for smart devices no matter they are running 802.11g, 802.11n, 802.11ac, 802.11ax standards. The feature eliminates high latency, slow network speed and poor AP performance problems.

- **Intelligent Load Balancing**

On a high-density wireless LAN, the Wireless Controller Series intelligently distributes users among different APs according to the number of users and data traffic in real time. This feature balances the load pressure on each AP and improves the average bandwidth and Quality of Service (QoS), offering higher network availability.

High Performance and Reliability

- **Centralized or Distributed Intelligent Switching**

The Wireless Controller Series can be deployed at Layer 2 or Layer 3 level without modifying the original network architecture. Forming an integrated switching framework with the APs, the controllers handle all the AP data exchange management with ease.

- **Intelligent RF Management**

The Wireless Controller enables an AP to perform on-demand RF scanning in the wireless environment. By scanning the wireless frequency bands and channels, both rogue APs and networks can be identified easily.

- **Seamless Roaming Experience**

The advanced clustering technology enables real-time synchronization of online information and roaming records of all users among multiple Wireless Controllers. Simply put, user and authentication data are shared in the cluster, enabling wireless users to roam freely in the whole network.

- **Abundant QoS Policies**

The Wireless Controller supports an extensive array of QoS policies. By setting bandwidth limitations, higher priority is given to critical applications over the others. The Wireless Controller Series hence delivers guaranteed bandwidth performance for network of all sizes.

- **Wireless IPv6 Access**

The Wireless Controller Series fully supports IPv6 features and implements IPv6 forwarding in a wireless network. Both IPv4 and IPv6 users can automatically connect to the controller over tunnels, enabling IPv6 applications to be borne on the wireless network.

- **Advanced Application Identification and Strategy Control Technology**

The Wireless Controller supports application traffic identification and application-level QoS mapping technology. Under centralized forwarding, through deep packet inspection (DPI) on the characteristics of the message, it can identify, count and control QoS mapping for applications, so as to understand the application usage in the network, and application traffic for service quality assurance control.

Flexible and Comprehensive Security Policies

- **Local Authentication**

The Wireless Controller allows local authentication based on the actual user demand, saving costs by getting rid of devices such as external portal and RADIUS server. The network infrastructure is also greatly simplified.

- **User Data Encryption**

The Wireless Controller fully supports the advanced encryption technologies such as Wired Equivalent Privacy (WEP), Temporal Key Integrity Protocol (TKIP), and Advanced Encryption Standard (AES), ensuring end-to-end security of data transmission over the wireless network.

- **Standard Communication Protocol**

Encrypted communication between the Wireless Controller and APs is enabled with the international standard Control and Provisioning of Wireless Access Points (CAPWAP). The function ensures complete isolation from the wired network and guarantees high security for the real-time communication between the Wireless Controller and APs.

- **Virtual Wireless Packet Technology**

With the virtual AP technology, the Wireless Controller can partition multiple SSIDs within the network. Network administrator can separately encrypt and isolate subnets or VLANs that have the same SSID. The deployment thereby enables specified authentication mode and encryption mechanism for each SSID.

- **Virtual AP Technology**

Virtualization technology allows virtualizing a physical AP into multiple virtual APs to handle different services. Different VAP can connect to the isolated AC to ensure the only authorized user access to right resource.

- **Virtual AC Technology**

The AC Virtualization technology help to virtualize multiple AC into single logical AC regardless of module or appliance-based AC. It supports to up 6 members of hardware AC in single high availability cluster. Its high availability feature ensures no business downtime in the event of one of AC fails. The failover mechanism is fully automated and completed within milliseconds, WiFi services resumed immediately in backup AC.

- **RF Security**

The Wireless Controller supports RF probe scanning feature to detect unauthorized access points or other RF interference sources. Once detected, the Wireless Controller will send real-time alerts to the network management system. It delivers easy management for network administrator to monitor potential threats and usage status.

- **Protection Against Viruses and Attacks**

The Wireless Controller provides a wide range of built-in security mechanisms to effectively prevent and control virus spread and network traffic attacks. The mechanisms ensure secure network access by the authorized users only. Such protection mechanisms include IP/MAC/WLAN binding, hardware ACL control, traffic-based bandwidth limitation, etc.

- **Secure User Access**

The Wireless Controller supports Web Authentication, allowing users to perform authentication using any web browser. 802.1X authentication is another security highlight. A major difference from web authentication is that 802.1X enables IP/MAC/WLAN binding after authentication. The feature totally guarantees the legitimacy of the user's identity.

- **Protection Against ARP Spoofing**

Address Resolution Protocol (ARP) detection effectively protects network users from ARP gateway spoofing and host spoofing for secure wireless access. Automatic binding can be enabled in both dynamic and static IP address allocation environments to greatly save manpower resources and management costs.

- **Rogue AP Countermeasure**

The Wireless Controller enables effective rogue AP detection and containment to enhance wireless security. The Wireless Controller arranges an active AP to perform rogue detection, send probe packets and hear probe responses from valid APs. Network administrator can hence easily single out rogue APs from the authorized to ensure wireless network security.

- **DHCP Security**

With Dynamic Host Configuration Protocol (DHCP) snooping, the Wireless Controller permits DHCP response messages from the trusted ports only. The Wireless Controller can thus prevent unauthorized deployment of any DHCP server to disturb the allocation and management of IP addresses and affect normal operation of the network.

- **Management Information Security**

To ensure the security of devices and offer protection against attacks, the Secure Shell (SSH) and SNMPv3 technologies encrypt management information by Telnet and Simple Network Management Protocol (SNMP). The Wireless Controller offers Telnet access control based on source IP address, offering a high level of granularity on device management. Only the IP addresses authorized by network administrator can log into the Wireless Controller, which further enhances the security of device network management.

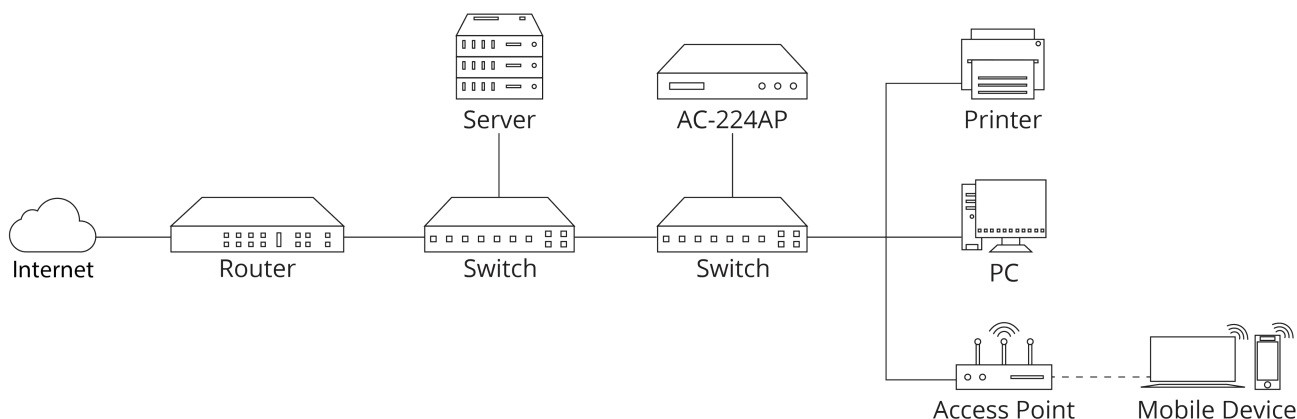
Unified Network Management

- **Web Interface Management**

The Wireless Controller supports web management interface for AC, which provides simplified wireless configuration and high visibility for the whole network operation. With the AC web interface, the Wireless Controller can also manage the APs and also the associated users, achieving user bandwidth control and network access restriction. Network administrator can hence plan, operate and maintain the wireless network with ease.

Application

The AC-224AP provides a comprehensive wireless security solution for easy integration into any network. The Wireless Intrusion Detection System (WIDS) featured in the AC-224AP detects rogue access points, rogue clients, and can anticipate wireless threats, to help prevent potential breaches and illegal access before any damage is done to the network.



Technical Specification

Wireless LAN Controller comes with advanced hardware architecture design. Here's a look at the details.

CHARACTERISTICS

	AC-224AP
Ports	
Service Port	6x 1000BASE-T ports, 2x 1000BASE-T / 1000BASE-X ports (combo)
Console Port	1
MGMT Port	1
USB Port	2
Key Components	
AP Chip	CN6130
Power	
Power Supply	100V~240VAC, 50/60Hz, 1.5A
Power Consumption	<40W
Physical and Environmental	
MTBF (Hours)	248000
Rack Space	1U
Dimensions (HxWxD)	1.71"x17.32"x7.87"(43.6x440x200mm)
Operating Temperature	0°C to 45°C
Storage Temperature	-40°C to 70°C
Operating Humidity	5% to 95% (non-condensing)
Storage Humidity	5% to 95% (non-condensing)
Warranty	
Warranty	3 Years

FEATURES

Item	Description
	Maximum Number of Manageable APs: 224
	Maximum Number of Configurable APs: 2048
	Maximum Number of Clients: 7168
	802.11 Performance: 8 Gbps
	VLAN: 4K
Performance	Maximum Number of Clients Supported by the Built-in Portal: 1500
	ACL: 64K
	MAC Address Table: 32K
	ARP Table: 32K
	Inter-AC Roaming Switch Time: ≤50ms

802.11 LAN Protocols

- 802.11, 802.11b, 802.11a, 802.11g, 802.11d, 802.11h, 802.11w, 802.11k, 802.11v, 802.11r, 802.11i, 802.11e, 802.11n, 802.11ac, 802.11ax

CAPWAP Protocols

- Layer 2/Layer 3 network topology between an AP and AC
- Enable an AP to automatically discover an accessible AC
- Enable an AP to automatically upgrade software version from an AC
- Enable an AP to automatically download configurations from an AC
- Network Address Translation (NAT) traversal

WLAN

Roaming

- Support Layer 2 / Layer 3 roaming within AC
- Support cross-AC Layer 2 / Layer 3 roaming
- Support Layer 2/Layer 3 roaming within AC under local forwarding
- Support Layer 2 / Layer 3 roaming between ACs under local forwardin

Forward

- Centralized forwarding
- Local forwarding
- Flexible forwarding based on business

Item	Description
WLAN	Wireless QoS
	<ul style="list-style-type: none"> • AP-based bandwidth control • WLAN-based bandwidth control • User-based static and smart speed control • Fair balancing
	User Isolation
	<ul style="list-style-type: none"> • AC-based user isolation • AP-based user isolation • WLAN-based user isolation
	Reliability
	<ul style="list-style-type: none"> • Fast switching between 2 ACs • Multiple ACs redundancy (1:1 A/A and A/S, N:1) • Multiple ACs clustering (N:N) • Remote Intelligent Perception Technology (RIPT) • Service upgrade
	STA Management
	<ul style="list-style-type: none"> • AP-based STA access control • SSID-based STA access control • AP- based load balancing • AP traffic-based load balancing • 5G priority access • RSSI threshold
	STA RSSI
	<ul style="list-style-type: none"> • 0-100
	STA Idle Timeout
	<ul style="list-style-type: none"> • 60-86400
	STA Average Data Rate Threshold
	<ul style="list-style-type: none"> • 8 to 261120
Adjusting Transmit Power of Beacon and Probe Response	

Item	Description
WLAN	<p>RF management</p> <ul style="list-style-type: none"> • Support country code setting • Support manual setting of transmit power • Support automatic setting of transmit power • Support manual setting of working channel • Support automatic setting of working channel • Support automatic adjustment of transmission rate • Support black hole compensation • Support AP load sharing based on traffic and number of users • Support band select • Support wireless radio frequency interference detection and avoidance
Security	<p>IPv4 security certification</p> <ul style="list-style-type: none"> • WEB authentication • 802.1X authentication • No perception authentication • QR code authentication <p>IPv6 security certification</p> <ul style="list-style-type: none"> • 802.1X authentication • WEB authentication <p>802.11 security and encryption</p> <ul style="list-style-type: none"> • Support multiple SSID • Support hidden SSID • Support 802.11i standard PSK certification • Support WPA, WPA2 standards • WEP (WEP/WEP128) • WAPI support • TKIP • CCMP • Support anti-ARP spoofing

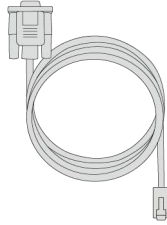
Item	Description
Security	CPP
	NFPP
	WIDS
	Virtual AP
IP Protocols	IPv4 Protocols
	<ul style="list-style-type: none"> • Ping, traceroute
	<ul style="list-style-type: none"> • DHCP server
	<ul style="list-style-type: none"> • DHCP client
	<ul style="list-style-type: none"> • DHCP relay
	<ul style="list-style-type: none"> • DHCP snooping
	<ul style="list-style-type: none"> • DNS client
	<ul style="list-style-type: none"> • NTP
	<ul style="list-style-type: none"> • Telnet
	<ul style="list-style-type: none"> • TFTP server
	<ul style="list-style-type: none"> • TFTP client
	<ul style="list-style-type: none"> • FTP server
	<ul style="list-style-type: none"> • FTP client
	IPv6 Protocols
	<ul style="list-style-type: none"> • DNSv6 client
	<ul style="list-style-type: none"> • DHCPv6 relay
	<ul style="list-style-type: none"> • DHCPv6 server
	<ul style="list-style-type: none"> • DHCPv6 client
	<ul style="list-style-type: none"> • TFTPv6 client
	<ul style="list-style-type: none"> • FTPv6 server
	<ul style="list-style-type: none"> • FTPv6 client
	<ul style="list-style-type: none"> • IPv6 CAPWAP
	<ul style="list-style-type: none"> • ICMPv6
	<ul style="list-style-type: none"> • IPv6 traceroute
	<ul style="list-style-type: none"> • Manual tunnel
	<ul style="list-style-type: none"> • Automatic tunnel manual configuration address
	<ul style="list-style-type: none"> • Automatic local address

Item	Description
IP Protocols	<p>IPv4 Routing</p> <ul style="list-style-type: none"> • Static routing • RIP • OSPF <p>IPv6 Routing</p> <ul style="list-style-type: none"> • Static routing
	Management

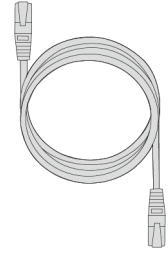
Accessories



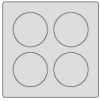
Power Cord x1



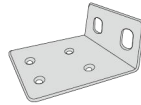
Console Cable x1



Network Cable x1



Rubber Pad x4



Mounting Bracket x2



M4 Screw x6

Ordering Information

ID	Description
149659	Wireless LAN Controller with 224 AP License
149655	1167Mbps 2x2 MU-MIMO Dual Radios Wireless Access Point
115392	1775Mbps 2x2 MU-MIMO Dual Radios Gigabit Access Point
108705	2400Mbps 2x2 MU-MIMO Dual Radios Gigabit Access Point
149657	2400Mbps 2x2 MU-MIMO Dual Radios Gigabit Outdoor Access Point
149658	2400Mbps 2x2 MU-MIMO Dual Radios Gigabit Outdoor Access Point
149656	3000Mbps 2x2 MU-MIMO Dual Radios Gigabit Access Point
115391	3267Mbps 2x2 MU-MIMO Three Radios Gigabit Access Point
115390	4134Mbps 2x2 MU-MIMO Four Radios Gigabit Access Point
108707	6817Mbps 4x4 MU-MIMO Three Radios Gigabit Access Point
115389	10Gbps 4x4 MU-MIMO Three Radios Gigabit Access Point

Note: AC-224AP can manage all Wi-Fi 6 APs on the website.



 <https://www.fs.com>



The information in this document is subject to change without notice. FS has made all efforts to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty.

AP-N505 Access Point Datasheet

3000 Mbps 2x2 MU-MIMO Dual-Band Gigabit Wi-Fi 6 Indoor Access Point



Overview

The FS AP-N505 is the most versatile next-generation enterprise-grade access point (AP) compliant with the Wi-Fi 6 (802.11ax) standard, this high-performance AP provides concurrent dual-band, supports 2 x 2 MU-MIMO, and can at the same time, it provides services on the 2.4 GHz and 5 GHz frequency bands, and the 2.4G+5G frequency band achieves a maximum rate of up to 2.976Gbps. The AP-N505 can support a user capacity of up to 256 Wi-Fi clients and provide up to 65% total throughput in traditional Wi-Fi 5 environments. With built-in smart antennas that enable signals to follow stations (STAs), providing better coverage and reliability, the AP is ideal for small and medium-sized enterprises (SMEs), educational institutions, and other high-density indoor scenarios such as cafes and entertainment places.

Benefits

- 3 Gbps Maximum Real-world Speed (HE160)
- Max 256 Client Connections
- WPA3™-Personal
- Built-in Technology that Resolves Sticky Client Issues for Wi-Fi 6 and Wi-Fi 5 Devices
- OFDMA, MU-MIMO and BSS Technology for Minimal Wireless Signal Interference

Key Features

Wi-Fi 6 (802.11ax) Standards

1024-QAM High-speed Access: The AP adopts the dual radio design and 2.4G+5G is recommended with the next-generation 802.11ax for 5G, the maximum access rate can reach 2.976Gbps.

OFDMA High-density User Access: OFDMA allows the AP to deal with multiple Wi-Fi 6 capable clients on each channel simultaneously, regardless of device or traffic type. OFDMA-based scheduling splits the bandwidth into smaller frequency allocations, channel utilization is optimized by handling each transaction via smaller sub-carriers or resource units (RUs), which means that clients are sharing a channel, which reduces user contention and back-off, thereby reducing network latency and improving network efficiency. In a high-density deployment environment, the average rate per user is increased to four times that of 802.11ac.

Bi-Directional MU-MIMO: Compared with the previous Wi-Fi 5 (802.11ac) with only downlink MU-MIMO support, Wi-Fi 6 supports both uplink and downlink MU-MIMO (multi-user, multiple-input and multiple-output) . Therefore, the AP can connect clients simultaneously, significantly improving the wireless performance and experience.

TWT (Target Wake Time) : Ideal for IoTs that communicate infrequently, TWT establishes a schedule for when clients need to communicate with an AP. This helps improve client power savings and reduces airtime contention with other clients. And TWT allows the client to stay asleep and to wake up only at prescheduled (target) times to exchange data with the access point. This offers significant energy savings for battery-operated devices, up to 3x to 4x the savings achieved by 802.11n and 802.11ac.

Spatial Reuse with BSS Color: AP-N505 supports spatial reuse with basic service set (BSS) color of 802.11ax to identify the BSSs of different WLANs in the network by different coloring (BSS color), and further divide them into internal and external BSS. Different packet receiving and sending thresholds can be maintained. When receiving packets, BSS coloring is used to quickly identify the packet of the external BSS. If the signal strength is lower than the receiving threshold of the external BSS, the packet will be ignored. The transmission of the internal BSS packet will not be affected. This technology can implement channel reuse in a high-density scenario, greatly reducing the impact of co-channel interference for the actual network deployment.

Green AP Energy Efficiency: A new power-saving mode called Target Wake Time (TWT) allows the client to stay asleep and to wake up only at prescheduled (target) times to exchange data with the access point. This offers significant energy savings for battery-operated devices, up to 3x to 4x the savings achieved by 802.11n and 802.11ac.

High Density Boost Technology

Smart Air Interface Optimization

Load Balancing During Smart Roaming: The load balancing algorithm can work during smart roaming for load balancing detection among APs on the network after STA roaming to adjust the STA load on each AP, improving network stability.

Intelligent RRM Technology: The dynamic frequency assignment algorithm is used automatically to detect adjacent-channel and co-channel interference, and identify any 2.4GHz redundant radio. Through automatic inter-AP negotiation, the redundant radio is automatically switched to another mode or is disabled to reduce 2.4GHz co-channel interference and increase the system capacity.

Intelligent Conflict Optimization Technology: The dynamic enhanced distributed channel access (EDCA) is used to schedule the channel occupation time and service priority of each user. This ensures that each user is assigned relatively equal time for using channel resources and user services are scheduled in an orderly manner, improving service processing efficiency and user experience."

Air Interface Performance Optimization

In high-density scenarios where many users access the network, increased number of low-rate STAs consumes more resources on the air interface, reduces the AP capacity, and lowers user experience. Therefore, FS APs will check the signal strength of STAs during access and reject access from weak-signal STAs.

5GHz-prior Access (Band Steering)

The APs support both 2.4G and 5G frequency bands. The 5GHz-prior access function enables an AP to steer STAs to the 5GHz frequency band first, which reduces load and interference on the 2.4GHz frequency band, improving the user experience.

Comprehensive Security Protection

Secure User Access

The AP supports a wide range of authentication methods such as web, 802.1x, PPSK (one-time dynamic password for staff), voucher/ access code, user account, and social authentication. Complying with the standard network access control, it offers a set of control policies in terms of user access, authorization, equipment compliance check, network behavior monitoring, network attack prevention, etc. All these control features guarantee high network security for authenticated users.

Virtual AP Technology

With virtual AP technology, the AP supports up to 32 ESSIDs. Network administrator can separately encrypt and isolate VLANs or subnet of the same SSID, thereby enabling specified authentication mode and encryption mechanism for each SSID.

Comprehensive Wireless Protection

Working with the AC, the AP offers a breadth of security features including WIDS (Wireless Intrusion Detection System), RF interference tracking, rogue AP content, nmenanti-ARP spoofing, DHCP protection and beyond for all-around security protection.

Personal Pre-shared Keys (PPSK)

Traditional Pre-shared Keys (PSK) are shared by all users on a WLAN, giving it potential risk of PSK leak-out. Ruijie Personal PSK (PPSK) is an easy-to-setup wireless authentication method with enterprise-grade security level. Credentials can be created and revoked individually. Each PPSK can also be tied to a unique user/ machine. With PPSK, you can enjoy the benefits of:

- High security by using different passwords for each user and device for individual SSID
- Simple deployment with batch account creation
- Ease of use, offering the same experience as WPA /WPA2-PSK
- Out-of-box feature in wireless access controller
- No additional AAA required

Authentication and Encryption for Wireless Access

The APs support WEP, WPA/WPA2-PSK, WPA3-SAE, WPA/WPA2/WPA3-802.1x authentication/encryption modes to ensure security of the wireless network. The authentication mechanism is used to authenticate user identities so that only authorized users can access network resources. The encryption mechanism is used to encrypt data transmitted over wireless links to ensure that the data can only be received and parsed by expected users.

Rogue Device Monitoring

FS APs support WIDS/WIPS, and can monitor, identify, defend, counter, and perform refined management on rogue devices, to provide security guarantees for air interface environment and wireless data transmission.

Flexible Operation and Management

Flexible Management Options

All APs support hybrid management mode. Either deployed as standalone AP (Fat mode) or managed AP (Fit mode), the AP will detect the operation mode automatically without extra effort on firmware upgrade. In addition, it supports cloud management and does not require the deployment of AC controller, greatly simplifying networking and reducing CAPEX investment. In addition, through the Airware management platform, you can realize online cloud network planning, cloud deployment, cloud inspection, cloud operation and maintenance in the cloud. Through the cloud management platform can be comprehensive and intuitive monitoring. You can know the network status, device status, and terminal connection status of all sites under the tenant, and always know the running status of the network and services.

Web and CLI Management Interface

The AP provides both web and command-line interface (CLI) for the AP and wireless controller, suitable for application in different scenarios. CLI design allows the networking professionals to perform fast troubleshooting, bulk configuration import or modification. Web GUI management should be perfect for the majority of general scenarios to plan, operate and maintain the wireless network without the need of customization.

Technical Specification

Wi-Fi 6 access point comes with advanced hardware architecture design. Here's a look at the details.

CHARACTERISTICS

	AP-N505
AP Type	Indoor, dual radio, 5GHz and 2.4GHz 802.11ax 2x2 MIMO
AP Chip	Qualcomm IPQ5018
DRAM	256MB
Flash Memory	128MB
5GHz Radio	Two Spatial Stream Single User (SU) MIMO for Up to 2.4Gbps Wireless Data Rate with 2SS HE160 802.11ax Client Devices
2.4GHz Radio	Two Spatial Stream Single User (SU) MIMO for Up to 574Mbps Wireless Data Rate with 2SS HE40 802.11ax Client Devices
Max. Associated Client Devices	Up to 256 Associated Client Devices Per Radio
Max. BSSIDs	16 BSSIDs Per Radio
Supported Frequency Bands (Country-specific Restrictions Apply)	2.4GHz Operating Bands : 802.11b/g/n: 2.4G-2.483GHz; 5GHz Operating Bands : 802.11a/n/ac/ax: 5.150-5.350GHz, 5.47-5.725GHz, 5.725-5.850GHz (Vary Depending on Different Countries)
Available Channels	Dependent on Configured Regulatory Domain
Dependent on Configured Regulatory Domain	802.11b: Direct-sequence Spread-spectrum (DSSS) 802.11a/g/n/ac: Orthogonal Frequency-division Multiplexing (OFDM) 802.11ax: Orthogonal Frequency-division Multiple Access (OFDMA) with Up to 8 Resource Units
Supported Modulation Types	802.11b: BPSK, QPSK, CCK 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM (Proprietary Extension) 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM (Proprietary Extension) 802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
802.11n High Throughput (HT) Support	HT20/40
802.11ac Very High Throughput (VHT) Support	VHT20/40/80
802.11ax High	HE20/40/80/160
802.11n/ac/ax Packet Aggregation	A-MPDU, A-MSDU
Antenna Gain	2.4 GHz: 2× 3 dBi 5 GHz: 2× 3 dBi Note: The peak antenna gain is 4.2 dBi at 2.4GHz and 5.1 dBi at 5GHz
Adjustable Power	1dBm
Maximum (Aggregate, Conducted Total) Transmit Power (Limited by Local Regulatory Requirements)	2.4 GHz Band: +20 dBm (18dBm Per Chain) 5 GHz Band: +20 dBm (18 dBm Per Chain) Note: Conducted Transmit Power Levels Exclude Antenna Gain. For Total (EIRP) Transmit Power, Add Antenna Gain

Technical Specification

CHARACTERISTICS

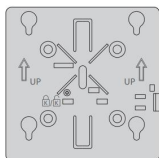
	AP-N505
Receiver Sensitivity	11b: -96dBm (1Mbps), -93dBm (5Mbps), -89dBm (11Mbps) 11a/g: -91dBm (6Mbps), -85dBm (24Mbps), -80dBm (36Mbps), 74dBm (54Mbps) 11n: -90dBm@MCS0, -70dBm@MCS7, -89dBm@MCS8, 68dBm@MCS15 11ac: HT20: -88dBm (MCS0), -63dBm (MCS9) 11ac: HT40: -85dBm (MCS0), -60dBm (MCS9) 11ac: HT80: -82dBm (MCS0), -57dBm (MCS9) 11ax: HE80: -82dBm (MCS0), -57dBm (MCS9), -52dBm (MCS11) 11ax: 160MHz: -77dBm (MCS0), -50dBm (MCS11)
Coverage Radius	15~20m
WI-FI Antennas	Built-in Smart Antenna for 2x2 MIMO
Interfaces	1 x 10/100/1000Base-T Ethernet Interface Support 802.3af 1 x 2.5G SFP Interface
DC Power Interface	48V/0.6A
Visual Indicators (Two Multi-color LEDs)	1* LED Indicator (Support Red, Green, Blue, Orange and Flashing Mode, Which Indicates Device Access)
Reset Button	Factory Reset
Serial Console Interface	RJ45 Physical Jack
Security Slot	Anti-theft Lock /Kensington Security Slot
Power Sources	The AP Supports Direct DC Power and Power over Ethernet
Maximum (Worst-case) Power Consumption	Power Sources: The AP Supports Direct DC Power and Power over Ethernet Maximum Power Consumption: 12.95W
Bluetooth Low Energy	BLE5.0
WAN Function	
Connect	PPPoE client
VPN	IPsec VPN
Other	Multicast to unicast、FTP ALG/DNS ALG
Management and Maintenance	
Compatible with Wireless LAN Controller	AC-1004/AC-224AP/AC-7072 Wireless Controller
Management Protocol	Telnet, TFTP, Web
Deploy	Fat/Fit/cloud

Technical Specification

CHARACTERISTICS

	AP-N505
Mechanical Specifications	
Dimensions/Weight (Unit, Excluding Mount Bracket)	1.92"x8.66"x8.66" (49x220x220mm)
Environmental Specifications	
IP Rating	IP41
Operating Conditions	Temperature: -10°C to 50°C Humidity: 5% to 95% (Non-condensing)
Storage and Transportation Conditions	Temperature: -40°C to 70°C Humidity: 5% to 95% (Non-condensing)
Reliability	
Warranty	3 Years

Accessories



Mounting Bracket x1



Screw x4



Screw Anchor x4



Anti-theft Key x1

Ordering Information

ID	Description
108705	2400 Mbps 2x2 MU-MIMO Dual Radios Gigabit Access Point
149656	3000 Mbps 2x2 MU-MIMO Dual Radios Gigabit Access Point
149657	2400 Mbps 2x2 MU-MIMO Dual Radios Gigabit Outdoor Access Point
149658	2400 Mbps 2x2 MU-MIMO Dual Radios Gigabit Outdoor Access Point
141375	Wireless LAN Controller with 64 AP License
108708	Wireless LAN Controller with 224 AP License
149659	Wireless LAN Controller with 1152 AP License



 <https://www.fs.com>



The information in this document is subject to change without notice. FS has made all efforts to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty.

Next-Generation Firewalls

NSG-2230/NSG-3230/NSG-5220 security platforms deliver business reliability for large and medium-sized enterprises and data centers.



Overview

FS Next-generation firewall features high security performance, expansion as needed, complete advanced threat detection and prevention, and smart and automated policy operation. This future-ready NGFW series is based on a brand new hardware architecture that offers industry-leading application layer performance to meet real-world network security needs. High-density ports ensure excellent access capability, and large storage options offer better visibility and analytics. As part of the ZTNA solution, NGFW granularly controls the application access with eliminated implicit trust and continuous verification. The FS FS NGFW offers complete, advanced defenses against known and unknown threats, coupled with smart, automated and efficient policy operation that makes security operations easy.

Benefits

- IPS, Antivirus, QoS, URL Filtering, L2-L7 Comprehensive Intrusion Detection and Prevention
- High-performance Processor, "Once Unpack, Parallel Processing"
- Network Traffic Anomaly Detection and Analysis Technology
- 8x GE Copper, 1x RJ-45 Console Fixed Interfaces
- Realize Flexible Control Through Strategy Layer, Support Strategic Risk Optimization
- Support Batch Import of IP Address Blacklists

Product Characteristics

Advanced Threat Detection and Protection

FS NGFW includes a full arsenal of mechanisms to provide real-time detection and protection across the full lifecycle of network attacks and malwares. Before a breach can even occur, proactive protections like IPS block the vulnerabilities exploitation. IP reputation services block requests from risky sites potentially involved in malware and spamming. URL filtering prevents users from inadvertently accessing sites associated with phishing, malware downloads and other exploits. Anti-virus detects and blocks known malwares at the network level with an advanced signature database that is continuously updated. Anti-spam provides real-time spam classification and prevention for both inbound and outbound traffic.

Further, the system's unified threat detection and analytics engine coordinates across all built-in security mechanisms to dramatically enhance efficiency while reducing network latency.

High-Performance Hardware Architecture

The future-ready features compact form factor and a powerful computing foundation that ensures high performance with uncompromising security. NGFWs offer robust performance for firewall throughput, concurrent and new sessions, and blazing fast performance for application layer, which is critical in meeting the needs of current security environments. Powered with FS proprietary hardware acceleration engine, NGFW high-end models enable fast packet forwarding with high throughput and ultra-low latency by traffic offloading. It also offers a friendly software ecology for third-party integration to support additional security features if desired. All rackmount models feature front and rear ventilation to assist in heat dissipation, which is a concern in networks of almost any size.

Excellent Access Capability and Storage Expansion

The FS offers high I/O port density, allowing the NGFW to act as a switch or router as needed, lowering deployment and management costs. In addition, expansion slots are available for a number of models to further increase performance. Bypass pairs on most models help ensure business continuity. All models, including the desktop versions, include a large onboard storage and have expansion options for very-large hard disk storage up to 2 TB.

With more storage the system can save more logs and data for longer time, enabling deeper analysis. In addition, the expanded storage allows the system to provide richer reports with far more information, including visualized results and actionable recommendations. Further, with deeper threat analysis the WebUI can display much richer threat detection information, which in turn gives admins better visibility. The increased visibility lets admins quickly zero in on anomalies and other suspicious network events or traffic, analyze them and respond.

Smart Policy Operation

The includes intelligent management and operation across the full policy lifecycle, from deployment to man_x0002_agement, optimization and operation. The system features automated user policy deployment using RADIUS dynamic authorization. Policy management is made far more efficient through policy groupings based on business requirements. In addition, policies can be aggregated to allow a set of poli_x0002_cies to act as a single policy. An innovative policy assistant analyzes traffic patterns and recommends refined policies for faster, easier and more accurate policy management. Policy operation is made more efficient and precise through policy redundancy checks, which identify redundant policies for deactivation or deletion, and policy hit count analysis, that helps further refine and adjust policies.

Specification

System Specification			
Items	NSG-2230	NSG-3230	NSG-5220
Firewall Throughput	5 Gbps	10 Gbps	20 Gbps
NGFW Throughput	1.7 Gbps	3 Gbps	5.5 Gbps
Threat Protection Throughput	800 Mbps	2 Gbps	3 Gbps
Maximum Concurrent Sessions	300,000	1.5 Million	3 Million
New Sessions/s	48,000	130,000	140,000
IPS Throughput	3.7 Gbps	5 Gbps	10 Gbps
AV Throughput	2.0 Gbps	4.2 Gbps	5.0 Gbps
IPsec VPN Throughput	2.7 Gbps	5 Gbps	6 Gbps
SSL Proxy Throughput	250 Mbps	800 Mbps	950 Mbps
Virtual Systems (Default/Max)	N/A	1/5	1/100
Firewall Policy Number	4,000	8/4,000	8/8,000
SSL VPN Users (Default/Max)	8/128	6,000	10,000
IPsec Tunnel Number	2,000	12,000	20,000
Management Ports	1 × Console Port, 2 × USB3.0 Ports, 1 × MGT Port (RJ45)	1 × Console Port, 2 × USB3.0 Ports, 1 × MGT Port (RJ45)	1 × Console Port, 2 × USB3.0 Ports, 1 × MGT Port (RJ45), 1 × HA Port (RJ45)
Fixed I/O Ports	8 × GE (including 1 bypass pair)	2 × SFP+, 8 × SFP, 8 × GE	2 × SFP+, 8 × SFP, 16 × GE (including 2 bypass pairs)
Wi-Fi	N/A	N/A	N/A
Available Slots for Expansion Modules	N/A	N/A	N/A
Expansion Module Option	N/A	N/A	N/A
Twin-mode HA	N/A	N/A	Yes
Local Storage	8 GB	8 GB	8 GB
Expansion Storage Options	256 GB SSD	480GB / 960GB / 1.92TB SSD	480GB / 960GB / 1.92TB SSD
Power Specification	30W, Single AC	50W, Dual AC (default)	100W, Dual AC (default)
Power Supply	AC 100-240 V 50/60 Hz	AC 100-240V, 50/60 Hz	AC 100-240 V 50/60 Hz

Technical Specification

System Specification			
Items	NSG-2230	NSG-3230	NSG-5220
Form Factor	Desktop	Rackmount, 1U	Rackmount, 1U
Dimensions (W × D × H, mm)	270 × 160 × 44	440 × 320 × 44	436 × 437 × 44
Dimensions (W × D × H, inches)	10.6 × 6.3 × 1.7	17.3 × 12.6 × 1.7	17.2 × 17.2 × 1.7
Weight	3.1 lb (1.4 kg)	9 lb (4.1 kg)	13.2 lb (6 kg)
Working Temperature	32-104°F (0-40°C)	32-104°F (0-40°C)	32-104°F (0-40°C)
Relative Humidity	10-95% non-condensing	10-95% non-condensing	10-95% non-condensing

Software Features

Functionality	Description
<p>Network Services</p>	<ul style="list-style-type: none"> • Dynamic routing (OSPF, BGP, RIPv2) • Static and policy routing • Route controlled by application • Built-in DHCP, NTP, DNS Server and DNS proxy • Tap mode – connects to SPAN port • Interface modes: sniffer, port aggregated, loopback, VLANS (802.1Q and Trunking) • L2/L3 switching & routing • Multicast(PIM-SSM) • Virtual wire (Layer 1) transparent inline deployment
<p>Firewall</p>	<ul style="list-style-type: none"> • Operating modes: NAT/route, transparent (bridge), and mixed mode • Policy objects: predefined, custom, aggregate policy, object grouping • Security policy based on application, role and geo-location • Application Level Gateways and session support: MSRCP, PPTP, RAS, RSH, SIP, FTP, TFTP, HTTP, dcerpc, dns-tcp, dns-udp, H.245 0, H.245 1, H.323 • NAT and ALG support: NAT46, NAT64, NAT444, SNAT, DNAT, PAT, Full Cone NAT, STUN • NAT configuration: per policy and central NAT table • VoIP: SIP/H.323/SCCP NAT traversal, RTP pin holing • Global policy management view • Security policy redundancy inspection, policy group, policy configuration rollback, aggregate policy • Policy Assistant for service base or application based policy recommendation • Policy analyzing and invalid policy cleanup • Comprehensive DNS policy • Schedules: one-time and recurring • Support policy import and export
<p>Intrusion Prevention</p>	<ul style="list-style-type: none"> • Protocol anomaly detection, rate-based detection, custom signatures, manual, automatic push or pull signature updates, integrated threat encyclopedia • IPS Actions: default, monitor, block, reset (attackers IP or victim IP, incoming interface) with expiry time • Packet logging option • Filter Based Selection: severity, target, OS, application or protocol • IP exemption from specific IPS signatures • IDS sniffer mode • IPv4 and IPv6 rate based DoS protection with threshold settings against TCP Syn flood, TCP/UDP/SCTP port scan, ICMP sweep, TCP/UDP/SCIP/ICMP session flooding (source/destination) • Active bypass with bypass interfaces • Predefined prevention configuration • IPS threat packet capture (with expansion storage only)

FEATURES

Functionality	Description
Antivirus	<ul style="list-style-type: none"> • Manual, automatic push or pull signature updates • Manually add or delete MD5 signature to the AV database • MD5 signature support uploading to cloud sandbox, and manually add or delete on local database • Flow-based antivirus: protocols include HTTP, SMTP, POP3, IMAP, FTP/SFTP, SMB • Compressed file virus scanning
Attack Defense	<ul style="list-style-type: none"> • Abnormal protocol attack defense • Flood attack defense, including ICMP flood, UDP flood, DNS query flood, recursive DNS query flood, DNS reply flood, SYN flood • ARP spoofing and ND spoofing defense • Scan and spoof defense, including IP address spoof, IP address sweep, port scan • DoS/DDoS defense, including ping of death attack, teardrop attack, IP fragment, IP option, Smurf or Fragile attack, Land attack, large ICMP packet, WinNuke attack • Allow list for destination IP address
URL Filtering	<ul style="list-style-type: none"> • Flow-based web filtering inspection • Manually defined web filtering based on URL, web content and MIME header • Dynamic web filtering with cloud-based real-time categorization database: over 140 million URLs with 64 categories (8 of which are security related) • Additional web filtering features: <ul style="list-style-type: none"> - Filter Java Applet, ActiveX or cookie - Block HTTP Post - Log search keywords - Exempt scanning encrypted connections on certain categories for privacy • Web filtering profile override: allows administrator to temporarily assign different profiles to user/group/IP • Web filter local categories and category rating override • Support URL allow list and block list
SSL Decryption	<ul style="list-style-type: none"> • Application identification for SSL encrypted traffic • IPS enablement for SSL encrypted traffic • AV enablement for SSL encrypted traffic • URL filter for SSL encrypted traffic • SSL encrypted traffic whitelist • SSL proxy offload mode • SSL proxy supports IP whitelist and predefined whitelist • Support TLS v 1.2, TLS v 1.3 • Support application identification, DLP, IPS sandbox, AV for SSL proxy decrypted traffic of SMTPS/POP3S/IMAPS

FEATURES

Functionality	Description
<p>Data Security</p>	<ul style="list-style-type: none"> • File transfer control based on file type, size and name • File protocol identification, including HTTP, FTP, SMTP, POP3 and SMB • File signature and suffix identification for over 100 file types • Content filtering for HTTP-GET, HTTP-POST, FTP and SMTP protocols • Content filtering for predefined keywords and file contents • IM identification and network behavior audit • Filter files transmitted by HTTPS using SSL Proxy and SMB
<p>Application Control</p>	<ul style="list-style-type: none"> • Over 4,000 applications that can be filtered by name, category, subcategory, technology and risk • Each application contains a description, risk factors, dependencies, typical ports used, and URLs for additional reference • Actions: block, reset session, monitor, traffic shaping • Identify and control cloud applications in the cloud • Provide multi-dimensional monitoring and statistics for cloud applications, including risk category and characteristics
<p>Quality of Service (QoS)</p>	<ul style="list-style-type: none"> • Max/guaranteed bandwidth tunnels or IP/user basis • Tunnel allocation based on security domain, interface, address, user/user group, server/server group, application/app group, TOS, VLAN • Bandwidth allocated by time, priority, or equal bandwidth sharing • Type of Service (TOS) and Differentiated Services (DiffServ) and traffic-class support • Prioritized allocation of remaining bandwidth • Maximum concurrent connections per IP • Bandwidth allocation based on URL category • Bandwidth limit by delaying access for user or IP • Automatic expiration cleanup and manual cleanup of user used traffic
<p>Server Load Balancing</p>	<ul style="list-style-type: none"> • Weighted hashing, weighted least-connection, and weighted round-robin • Session protection, session persistence and session status monitoring • Server health check, session monitoring and session protection
<p>Link Load Balancing</p>	<ul style="list-style-type: none"> • Bi-directional link load balancing • Outbound link load balancing: policy based routing including ECMP, time, weighted, and embedded ISP routing; Active and passive real-time link quality detection and best path selection • Inbound link load balancing supports SmartDNS and dynamic detection • Automatic link switching based on bandwidth, latency, jitter, connectivity, application etc. • Link health inspection with ARP, PING, and DNS

FEATURES

Functionality	Description
<p>VPN</p>	<ul style="list-style-type: none"> • VPN • IPsec VPN - IPsec Phase 1 mode: aggressive and main ID protection mode - Peer acceptance options: any ID, specific ID, ID in dialup user group - Supports IKEv1 and IKEv2 (RFC 4306) - Authentication method: certificate and pre-shared key - IKE mode configuration support (as server or client) - DHCP over IPsec - Configurable IKE encryption key expiry, NAT traversal keep alive frequency - Phase 1/Phase 2 Proposal encryption: DES, 3DES, AES128, AES192, AES256 - Phase 1/Phase 2 Proposal authentication: MD5, SHA1, SHA256, SHA384, SHA512 - IKEv1 support DH group 1,2,5,19,20,21,24 - IKEv2 support DH group 1,2,5,14,15,16,19,20,21,24 - XAuth as server mode and for dialup users - Dead peer detection - Replay detection - Autokey keep-alive for Phase 2 SA • IPsec VPN realm support: allows multiple customSSL VPN logins associated with user groups (URL paths, design) • IPsec VPN supports configuration guide. Config_x0002_uration options includes: route-based or policy based • IPsec VPN deployment modes: gateway-to_x0002_gateway, full mesh, hub-and-spoke, redundant tunnel, VPN termination in transparent mode • One time login prevents concurrent logins with the same username • SSL portal concurrent users limiting • SSL VPN port forwarding module encrypts client data and sends the data to the application server • Supports clients that run iOS, Android, Microsoft Windows, MacOS and Linux • Host integrity checking and OS checking prior to SSL tunnel connections • MAC host check per portal • Cache cleaning option prior to ending SSL VPN session • L2TP client and server mode, L2TP over IPsec, and GRE over IPsec • View and manage IPsec and SSL VPN connec_x0002_tions • PnPVPN • VTEP for VxLAN static unicast tunnel
<p>IPv6</p>	<ul style="list-style-type: none"> • Management over IPv6, IPv6 logging, HA and HA peer mode, twin-mode AA and AP • IPv6 tunneling: DNS64/NAT64, IPv6 ISATAP, IPv6 GRE, IPv6 over IPv4 GRE • IPv6 routing including static routing, policy routing, ISIS, RIPng, OSPFv3 and BGP4+ • IPv6 support on LLB • IPS, Application identification, URL filtering, Antivirus, Access control, ND attack defense, iQoS, SSL VPN • IPv6 jumbo frame support • IPv6 Radius and sso-radius supports • IPv6 is supported in Active Directory whitelist • IPv6 support on the following ALGs: TFTP, FTP, RSH, HTTP, SIP, SQLNETv2, RTSP, MSRPC, SUNRPC • IPv6 support on distributed iQoS • Track address detection

FEATURES

Functionality	Description
<p>High Availability</p>	<ul style="list-style-type: none"> • Redundant heartbeat interfaces • Active/Passive and peer mode • Standalone session synchronization • HA reserved management interface • Failover: <ul style="list-style-type: none"> - Port, local & remote link monitoring - Stateful failover - Sub-second failover - Failure notification • Deployment options: <ul style="list-style-type: none"> - HA with link aggregation - Full mesh HA - Geographically dispersed HA • Dual HA data link ports
<p>Twin-mode HA (only available on A3000-IN and above models)</p>	<ul style="list-style-type: none"> • High availability mode among multiple devices • Multiple HA deployment modes • Configuration and session synchronization among multiple devices
<p>User and Device Identity</p>	<ul style="list-style-type: none"> • Local user database • Remote user authentication: TACACS+, LDAP, Radius, Active Directory • Single-sign-on: Windows AD • 2-factor authentication: 3rd party support, integrated token server with physical and SMS • User and device-based policies • User group synchronization based on AD and LDAP • Support for 802.1X, SSO Proxy • WebAuth: page customization, force crack prevention, IPv6 support • Interface based authentication • Agentless ADSSO (AD Polling) • Use authentication synchronization based on SSO-monitor • Support IP-based and MAC-based user authentication • Radius server issues user security policy via CoA message
<p>Logs & Reporting</p>	<ul style="list-style-type: none"> • Logging facilities: local storage; up to 6 months log storage with expansion storage (SSD hard drive), syslog server, FS HSM or HSA • Encrypted logging and log integrity with HSA scheduled batch log uploading • Reliable logging using TCP option (RFC 3195) • Detailed traffic logs: forwarded, violated sessions, local traffic, invalid packets, URL etc. • Comprehensive event logs: system and administrative activity audits, routing & networking, VPN, user authentications, Wi-Fi related events • IP and service port name resolution option • Brief traffic log format option • Three predefined reports: Security, Flow and Network reports • User defined reporting • Reports can be exported in PDF, Word and HTML via Email and FTP • Support policy configuration auditing

Accessories

NSG-2230



Power Adapter x1



Power Cord x1



Ethernet Cable x1



Rubber Pad x4

NSG-3230/NSG-5220



Power Cord x2



Ethernet Cable x1



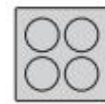
Console Cable x1



Grounding Cable x1



Mounting Bracket x2



Rubber Pad x4



Grounding Cable x1



Grounding Cable x1



Grounding Cable x1



 <https://www.fs.com>



The information in this document is subject to change without notice. FS has made all efforts to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty.

Copyright © 2009-2023 FS.COM All Rights Reserved.

IP PBX: PBX-C301

Suitable for Small-sized Businesses.



Overview

PBX-C301 is an affordable, scalable, interoperable, secure and reliable solution and provides not only traditional PBX features such as Automated Attendant and Voicemail, but also many advanced features including Remote Extensions, Remote Office Connections, Conference Bridge, Call Recording, etc. It is an ideal choice for small and medium sized companies under 100 employees who wish to build their own innovative business phone system.

Benefits

- Up to 100 Extensions and 30 Concurrent Calls
- 150 Hours Call Recording & Voicemail
- Support Multi-level IVR
- Intrusion auto-detection and prevention for Security
- Support VPN, Static Routing, DHCP, DDNS, Virtual IP, VLAN etc.

ADVANTAGES

IP PBX-C301

Quick Setup Wizard

Quick Setup Wizard allows speedy initial configuration of C-301 system. The wizard includes all essential configuration steps in an easy to use and intuitive web based interface.

SIP Proxy Services

No fixed public IP, third-party DDNS services and VPN router required. Remote extension and remote branch office phone system integration have never been easier.

Endpoints Provisioning

Quick and simple deployment of endpoint devices using PNP and Quick Register Code.

Billing

With built-in billing system, no third-party billing software required. Prepaid/postpaid billing, billing credit, flexible billing rates and billing statistics features are all supported.

Extension Web Portal (WebRTC Integrated)

Thanks to the extension web portal, you can now Playback voicemail/recordings online, make/receive phone calls, click to dial, incoming call pop-up, send fax. All of this from within your web browser without installing any plugins.

Web Conference Manager

By using web conference manager, it will be much easier for you to start and manage a conference from the Web interface. Invite participants, mute/unmute participants, kick out participants can be done by a few mouse clicks.

CHARACTERISTICS

IP PBX-C301

Hardware Specifications

Telephony Interfaces	8x FXO/FXS/GSM/WCDMA, 4x BRI Interfaces
CPU	1GHz ARMv7 Processor
SDRAM	1GB DDR3
Storage	16GB SD Card
USB (Extended Storage Supported)	1 (Supported File System: FAT16,FAT32,EXTFAT,NTFS,EXT3,EXT4)
Ethernet Interface	WAN, LAN (10/100Mbps)
Power	DC 12V, 2A
Dimension	345x160x35mm (Rack mount or Desktop based)

Software Specifications

- 100 Extensions
- 30 Simultaneous Calls
- 30 Conference Attendees
- 150hrs Recording/Voicemail (Internal Storage)
- 1-6 EX16S Deployment (Recommended)
- Unlimited IVR Levels
- 50 SIP/IMS Trunks (Max)
- 500000 CDR History
- 10000 Phonebook Contacts
- 30 Paging Members

System Capacity

CHARISTERISTIC

IP PBX-C301

Protocols & Codecs

SIP (RFC3261), IAX2

Support

DTMF

(RFC4733, SIPINFO, In-Band)

Transport Protocols

UDP, TCP, TLS, SRTP

Network Protocols

IPv4, IPv6, VLAN, DHCP, PPPoE, NTP, SNTP, TFTP, SSH, HTTPS, LDAP

Video Codecs

VP8, H.264, H.263+, H.263, H.261

Audio Codecs

Opus, G.722, G.711(a-law,u-law), G.729, G.726, GSM, SPEEX, AMR, AMR-WB

Telephony Features

Call Queue

Support

Ring Group

Support

Call Forward

Support

Call Transfer

Support

Call Pickup

Support

Call Parking

Support

Call Waiting

Support

Speed Dial

Support

IVR (Multi-layer)

Support

Caller ID

Support

Call Spy

Support

Video Call

Support

3-way Calling

Support

Follow Me

Support

Call Back

Support

DISA

Support

CHARACTERISTICS

IP PBX-C301	
Smart DID	Support
Blacklist	Support
Voicemail	Support
Wakeup Call	Support
PIN Code	Support
Do Not Disturb	Support
Switch Call	Support
Time Conditions	Support
Paging & Intercom	Support
One Number Stations	Support
Music on Ringback	Support
Distinctive Ringtone	Support
Auto Call Recording	Support
One Touch Recording	Support
Call Detailed Records (CDR)	Support
Conference Call	Support
Feature Highlights	
Quick Installation Guide	Support
Softphone APP Auto Provisioning	QR Code Scan
IP Phone Auto Provisioning	PNP, Quick Register Code
LDAP Phonebook Auto Configure	(H81, H83)

CHARACTERISTICS

IP PBX-C301

EX16S Auto Provisioning	Support
SIP Proxy	NAT Traversal
Voicemail to Email	Support
Fax to Email	Support
Multilingual Web UI	Support
Multilingual Voice Prompts	Support
Multi-level User Administration	
Admin User	All Privileges
Operator User	Extensions, faxes, CDR, recordings, etc.
Extension User	WebRTC, recordings, voicemails, calllogs, etc.
Billing User	Support
Conference Manager	Support
Security	
Firewall Based on Iptable	Support
Intrusion Auto Detection & Prevention	Support
Geo-IP	Support
IP Black / White List	Support
Extension Permit IP	Support
Network Features	
WAN	Static IP, DHCP, PPPoE
VPN	PPTP, OpenVPN, IPSec, L2TP (Server & Client)
Static Routing	Support
DHCP (Server & Client)	Support
DDNS	Support
Virtual IP	Support
Local Domain Name Service	Support

CHARACTERISTICS

IP PBX-C301

VLAN (WAN & LAN Interface)

Support

SIP Proxy

NAT Traversal



 <https://www.fs.com>



The information in this document is subject to change without notice. FS has made all efforts to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty.

IP Phones

FIP-5112 IP Phones



Overview

FIP-5112 is an entry-level VoIP Phone. Given to wideband codec G.722 and Opus, HD audio enables you to enjoy a crystal-clear and high-efficient 6-way communication. 2.8-inch Color Screen brings clear visual experience, 12 SIP lines consolidate communication systems and you can make voice calls and send messages over internet, which help you manage it easily and save cost on a recurring basis. PoE power supply will backup for you when power failures. The VoIP Phones deliver excellent voice communications solution to small and large office environments.

Benefits

- 2.8-inch (320x240) Color Screen
- 6-way Conferencing
- 12 SIP lines, SIP hotspot
- HD Audio, G.722 and Opus
- Dual Gigabit ports, integrated PoE
- Built-in Bluetooth
- Wi-Fi via Wi-Fi dongle

Technical Specification

CHARISTERISTIC

FIP-5112	
Generic	
SIP Lines	12
HD Voice	Support
PoE	Enabled
Screen	2.8-inch color screen
Headset/Hands Free/Headset mode	Support
Desktop Stand/Wall-mounted	Support
Power Supply	Optional/External
Phone Functions	
Local Phonebook	1000 Entries
Remote Phonebook	XML/LDAP, 1000 Entries
Call Logs	In/Out/Missed, 1000 Entries
Black / White List Call Filter	Support
Voice Message Waiting Indication (VMWI)	Support
Programmable Soft keys	Support
Network Time Synchronization	Support
Built-in Bluetooth 4.2	Support Bluetooth headset
Wi-Fi	Via Wi-Fi Dongle
Plantronics wireless headset	Through Plantronics APD-80 EHS Cable
Jabra wireless headset	Through EHS20 EHS Cable
Recording	Through Flash Drive or Server
Action URL / Active URI	Support
uaCSTA	Support
Screen saver	Support

CHARACTERISTICS

FIP-5112

Call Functions	Support
Call out / Answer / Reject	Support
Mute / Unmute (Microphone)	Support
Call Hold / Resume	Support
Call Waiting	Support
Intercom	Support
Caller ID Display	Support
Anonymous Call (Hide Caller ID)	Support
Call Forward (Always/Busy/No Answer)	Support
Call Transfer (Attended/Unattended)	Support
Call Parking/Pick-up (Depending on server)	Support
Redial	Support
L2TP	Support
OpenVPN	Support
SNTP	Support
FTP / TFTP	Support
TR-069	Support
Do-Not-Disturb	Support
Auto-Answering	Support
Voice Message (With server)	Support
6-way Conference	Support
Hot Line	Support
Hot Desking	Support
Audio	
HD Voice Microphone / Speaker	Handset/Hands-free, 0 ~ 7KHz Frequency Response
Wideband ADC/DAC 16KHz Sampling	Support
Narrowband Codec	G.711a/u, G723.1, G.726-32K, G.729A, iLBC, G.729B
Wideband Codec	G.722, AMR-WB, Opus

CHARACTERISTICS

FIP-5112

Full-duplex Acoustic Echo Canceller (AEC)	Support
Voice Activity Detection (VAD)	Support
Comfort Noise Generation (CNG)	Support
Background Noise Estimation (BNE)	Support
Noise Reduction (NR)	Support
Packet Loss Concealment (PLC)	Support
Dynamic Adaptive Jitter Buffer	Support
DTMF	In-band, Out-of-Band – DTMF-Relay (RFC2833) / SIP INFO
Network	
Physical	10/100/1000Mbps Ethernet, dual bridged port for PC bypass
IP Mode	IPv4/IPv6/IPv4/IPv6
IP Configuration	Static IP / DHCP / PPPoE
Network Access Control	802.1x
VPN	L2TP / OpenVPN
VLAN	Support
LLDP	Support
QoS	Support
RTCP-XR (RFC3611) / VQ-RTCPXR (RFC6035)	Support
Deployment & Management	
Auto-Provisioning	via FTP/TFTP/HTTP/HTTPS/DHCP OPT66/SIP PNP/TR-069/CDP
Web Management Portal	Support
Web-based Packet Dump	Support
Configuration Export / Import	Support
Phonebook Import / Export	Support
Firmware Upgrade	Support
Syslog	Support

CHARACTERISTICS

FIP-5112

Physical Specifications

LCD	2.8-inch (320x240) Color Screen
RJ9 Port	2
HD Handset (RJ9)	1
Headset	1
Standard RJ9 Handset Wire	1
1.5M CAT5 Ethernet Cable	1
Back Rack	1
Status Indicator Light	1(Red)
RJ45	2
Network	1
PC	1(Bridged to Network)
USB2.0 Port	1, Standard A, Connect with USB Wi-Fi dongle or Flash Driver
Safety Keyhole	1
DC Power Input	5V/2A
Power Consumption (PoE)	1.55W~10.4W
Power Consumption (Adapter)	1.24W~9W

CHARACTERISTICS

FIP-5112

Working Temperature 0~45°C

Working Humidity 10~95%

Color Black

Installation Desktop Stand / Wall-mounted

Gift Box Dimensions 283x210x82 mm

Outer CTN Dimensions 440x435x304 mm (10 PCS)

Device Dimensions

Desktop Stand (Angles 1) 181x175.75x184.4 mm

Desktop Stand (Angles 2) 181x175.85x185.1 mm

Wall-mounted 181x115.43x208.75 mm

Keypad 39 keys

7 DSS keys With LED Indicator Light

1 Page-Switch (PS) key Support

4 Soft-keys 1

4 Function keys Phonebook, MWI, Headset, Redial

4 Navigation keys Support

2 Line keys With LED Indicator Light

1 OK key Support

12 Standard Phone Digits keys Support

3 Volume Control keys Up/Down/Mute (Microphone)

1 Hands-free key Support

Network Video Recorders

8/9/16/32/64-Channel, PoE & No PoE, 4K NVRs



Overview

With SATA 3.5" HDD interfaces, network video recorders (NVRs) can record videos from connected cameras, and the storage can be expanded by adding or replacing the hard disk. A variety of monitoring methods, including a web browser, monitoring software and mobile App, are available to manage your cameras and NVRs easily.

Featuring power-over-ethernet (PoE) ports, PoE NVRs can transfer power and video signal to cameras through a single network cable, ideal for retails, banks, education institutions, hotels and other applications.

Benefits

- Up to 8/9/16/32/64 Channels
- PoE & No PoE
- H.265, H.264, MJPEG
- Supports Third-party Cameras
- Up to 4K HD Live View, Storage and Playback

Technical Specification

PoE Network Video Recorders

	NVR202-8C-8P	NVR202-16C-16P	NVR204-32C-16P
Video / Audio Input			
IP Video Input	8-ch	16-ch	32-ch
Two-way Audio Input	1-ch, RCA	1-ch, RCA	1-ch, RCA
Video / Audio Output			
HDMI Output	4K (3840x2160) @ 30fps, 1920x1080 @ 60fps, 1920x1080 @ 50fps, 1600x1200 @ 60fps, 1280x1024 @ 60fps, 1280x720 @ 60fps, 1024x768 @ 60fps		
VGA Output	1920x1080 @ 60fps, 1920x1080 @ 50fps, 1280x1024 @ 60fps, 1280x720 @ 60fps, 1024x768 @ 60fps		
Recording Resolution	8MP/ 6MP/ 5MP/ 4MP/ 3MP/ 1080p/ 960p/ 720p/ D1/ 2CIF/ CIF		
Audio Output	1-ch, RCA		
Synchronous Playback	8-ch	16-ch	32-ch
Corridor Mode Screen	3/4/5/7/9	3/4/5/7/9/10/12/16	3/4/5/7/9/10/12/16/32
Network			
Incoming Bandwidth	160Mbps		
Outgoing Bandwidth	64Mbps		
Remote Users	128		
Protocols	P2P, UPnP, NTP, DHCP, PPPoE		
Compatible Integration	ONVIF® Profile S Specification at onvif.org		
Decoding			
Decoding Format	H.265, H.264, MJPEG		
Capability	2x 4K @ 30fps, 4x 4MP @ 30fps, 5x 3MP @ 30fps, 8x 1080P @ 30fps	2x 4K @ 30fps, 4x 4MP @ 30fps, 5x 3MP @ 30fps, 8x 1080P @ 30fps, 16x 720P @ 30fps	2x 4K @ 30fps, 4x 4MP @ 30fps, 5x 3MP @ 30fps, 8x 1080P @ 30fps, 16x 720P @ 30fps, 32x D1 @ 30fps
Live View/Playback	8MP/6MP/5MP/4MP/3MP/1080p/960p/720p/D1/2CIF/CIF		
Hard Disk			
SATA Interface	2	2	4
Capacity	Up to 10TB for each HDD		
Smart			
VCA Detection	Face Detection, Intrusion Detection, Cross Line Detection, Audio Detection, Defocus Detection, Scene Change Detection, Auto Tracking, Object Left Behind, Object Removed		
VCA Search	Face Search, Behavior Search		
Statistical Analysis	People Counting		
External Interface			
Network Interface	1x RJ-45, 10M/100M/1000M self-adaptive Ethernet Interface		

Technical Specification

PoE Network Video Recorders

	NVR202-8C-8P	NVR202-16C-16P	NVR204-32C-16P
External Interface			
Serial Interface	--	--	1x RS485
USB Interface	Front Panel: 1x USB2.0, Rear Panel: 1x USB3.0		
Alarm In	4-ch	4-ch	16-ch
Alarm Out	1-ch	1-ch	4-ch
PoE			
Interface	8x RJ-45, 10M/100M self-adaptive Ethernet Interface	16x RJ-45, 10M/100M self-adaptive Ethernet Interface	16x RJ-45 10M/100M self-adaptive Ethernet Interface
Max Power for Single Port	30W	30W	30W
Max Power in Total	130W	240W	240W
Supported Standard	IEEE 802.3af/at		
General			
Power Supply	100 to 240V AC		
Power Consumption (without HDD)	≤ 10W	≤ 10W	≤ 15W
Dimensions (Hx Wx D)	2.1"x 14.9"x 12.4" (53x 380x 315mm)	2.1"x 14.9"x 12.4" (53x 380x 315mm)	2.9"x 15.7"x 14.2" (74x 400x 362mm)
Weight	≤5.29lb (2.6kg)	≤5.29lb (2.6kg)	≤11lb (5kg)
Operating Temperature	14° F to 131° F (-10° C to 55° C)		
Operating Humidity	≤ 90% RH (Non-condensing)		
Warranty	2 Years		

*ONVIF is a trademark of ONVIF, Inc.

*The pre-installed hard drive is purple hard drive, which can deliver better performance.

Ordering Information

ID	Description
#129260	NVR202-8C-8P, 8-Channel 8-Port PoE Network Video Recorder, Record 8CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Supports up to 2x 10TB Hard Drive (Not Included)
#129261	NVR202-8C-8P, 8-Channel 8-Port PoE Network Video Recorder, Record 8CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Pre-Installed 2TB Hard Drive
#129262	NVR202-8C-8P, 8-Channel 8-Port PoE Network Video Recorder, Record 8CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Pre-Installed 4TB Hard Drive
#129263	NVR202-16C-16P, 16-Channel 16-Port PoE Network Video Recorder, Record 16CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Supports up to 2x 10TB Hard Drive (Not Included)
#129264	NVR202-16C-16P, 16-Channel 16-Port PoE Network Video Recorder, Record 16CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Pre-Installed 4TB Hard Drive
#129265	NVR204-32C-16P, 32-Channel 16-Port PoE Network Video Recorder, Record 32CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Supports up to 4x 10TB Hard Drive (Not Included)
#129266	NVR204-32C-16P, 32-Channel 16-Port PoE Network Video Recorder, Record 32CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Pre-installed 4TB Hard Drive

Technical Specification

No PoE Network Video Recorders

	NVR202-9C	NVR202-16C	NVR304-32C	NVR716-64C
Video / Audio Input				
IP Video Input	9-ch	16-ch	32-ch	64-ch
Two-way Audio Input	1-ch, RCA	1-ch, RCA	1-ch, RCA	1-ch, BNC
Video / Audio Output				
HDMI Output	4K (3840x2160) @ 30fps, 1920x1080 @ 60fps, 1920x1080 @ 50fps, 1600x1200 @ 60fps, 1280x1024 @ 60fps, 1280x720 @ 60fps, 1024x768 @ 60fps	4K (3840x2160) @ 30fps, 1920x1080 @ 60fps, 1920x1080 @ 50fps, 1600x1200 @ 60fps, 1280x1024 @ 60fps, 1280x720 @ 60fps, 1024x768 @ 60fps	4K (3840x2160)/30Hz, 1920x1080p/60Hz, 1920x1080p/50Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz	4K (3840x2160)/30Hz, 1920x1080p/60Hz, 1920x1080p/50Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz
VGA Output	1920x1080 @ 60fps, 1920x1080 @ 50fps, 1280x1024 @ 60fps, 1280x720 @ 60fps, 1024x768 @ 60fps	1920x1080 @ 60fps, 1920x1080 @ 50fps, 1280x1024 @ 60fps, 1280x720 @ 60fps, 1024x768 @ 60fps	1920x1080p/60Hz, 1920x1080p/50Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz	1920x1080p/60Hz, 1920x1080p/50Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz
Recording Resolution	8MP/ 6MP/ 5MP/ 4MP/ 3MP/ 1080p/ 960p/ 720p/ D1/ 2CIF/ CIF			12MP/8MP/6MP/5MP/4MP/3MP/1080p/960p/720p/D1/2CIF/CIF
Audio Output	1-ch, RCA	1-ch, RCA	1-ch, RCA	1-ch, BNC
Synchronous Playback	6-ch	16-ch	16-ch	16-ch
Corridor Mode Screen	3/4/5/7/9	3/4/5/7/9/10/12/16	3/4/5/7/9/10/12/16/32	3/4/5/7/9/10/12/16/32
Network				
Incoming Bandwidth	160Mbps	160Mbps	384Mbps	384Mbps
Outgoing Bandwidth	64Mbps	160Mbps	384Mbps	384Mbps
Remote Users	128			
Protocols	P2P, UPnP, NTP, DHCP, PPPoE			
Compatible Integration	ONVIF® Profile S Specification at onvif.org			
Decoding				
Decoding Format	H.265, H.264, MJPEG			
Capability	2x 4K @ 30fps, 3x 5MP @ 30fps, 5x 3MP @ 30fps, 8x 1080P @ 30fps, 9x 1080p@25fps	2x 4K @ 30fps, 3x 5MP @ 30fps, 5x 3MP @ 30fps, 8x 1080P @ 30fps, 16x 720p@30fps	2x 12MP@30fps, 4x 4K@30fps, 8 x 4MP@30fps, 9x 4MP@25fps, 16x 1080p@30fps, 32x 960p@25fps	4x 12MP@20fps, 4x 4K@30fps, 16x 1080p@30fps, 36x 720p@30fps, 64x D1
Live View/Playback	8MP/6MP/5MP/4MP/3MP/ 1080p/960p/720p/D1/2CIF/CIF		12MP/8MP/6MP/5MP/4MP/3MP/ 1080p/960p/720p/D1/2CIF/CIF	

Technical Specification

No PoE Network Video Recorders

	NVR202-9C	NVR202-16C	NVR304-32C	NVR716-64C
Hard Disk				
SATA Interface	2	2	4	16
Capacity	up to 6TB for each HDD	up to 8TB for each HDD	Up to 10TB for each HDD	Up to 10TB for each HDD
eSATA	--	--	--	1
miniSAS	--	--	--	2
Smart				
VCA Detection	Face detection, Intrusion detection, Cross line detection, Audio detection, Defocus detection, Scene change detection, Auto tracking, Object Left Behind, Object Removed			Face detection, Intrusion detection, Cross line detection, Audio detection, Defocus detection, Scene change detection, Auto tracking
VCA Search	Face Search, Behavior Search			
Statistical Analysis	People Counting			
External Interface				
Network Interface	2x RJ-45 10M/100M/1000M self-adaptive Ethernet Interface			4x RJ-45 10M/100M/1000M self-adaptive Ethernet Interface
Serial Interface	--	--	1 x RS485, 1 x RS232	1 x RS485, 1 x RS232
USB Interface	Front Panel: 1x USB2.0, Rear Panel: 1x USB3.0	Front Panel: 1x USB2.0, Rear Panel: 1x USB3.0	Front panel: 2 x USB2.0 Rear panel: 1 x USB3.0	Front panel: 4 x USB3.0
Alarm In	--	--	16-ch	24-ch
Alarm Out	--	--	4-ch	8-ch
Power Output	--	--	--	12V DC
Disk Array				
Array Type	--	--	RAID 1.5	RAID 0/1/5/6/10/50/60
General				
Power Supply	12V DC	12V DC	100 to 240V AC	100 to 240V AC
Power Consumption (without HDD)	≤ 15W	≤ 15W	≤ 25W	≤ 50W
Dimensions (Hx Wx D)	53x 380x 315mm (2.1"x 15.0"x 12.4")	53x 380x 315mm (2.1"x 15.0"x 12.4")	89"x 442x 426mm (3.5"x 17.4"x 16.8")	131x 482x 477mm (5.1"x 18.8"x 19.0")
Weight	≤ 2.16lb (0.98Kg)	≤ 2.16lb (0.98Kg)	≤ 12.57lb (5.7Kg)	≤ 22.05 lb (10 Kg)
Operating Temperature	14° F to 131° F (-10° C to 55° C)			
Operating Humidity	≤ 90% RH (Non-condensing)			
Warranty	2 Years			

*ONVIF is a trademark of ONVIF, Inc.

*The pre-installed hard drive is purple hard drive, which can deliver better performance.

Ordering Information

ID	Description
#129267	NVR202-9C, 9-Channel Network Video Recorder, Record 9CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Supports up to 2x 6TB Hard Drive (Not Included)
#129268	NVR202-9C, 9-Channel Network Video Recorder, Record 9CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Pre-installed 2TB Hard Drive
#129269	NVR202-9C, 9-Channel Network Video Recorder, Record 9CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Pre-installed 4TB Hard Drive
#129270	NVR202-16C, 16-Channel Network Video Recorder, Record 16CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Supports up to 2x 8TB Hard Drive (Not Included)
#129271	NVR202-16C, 16-Channel Network Video Recorder, Record 16CH 4K@30fps, Live View/Playback 2CH 4K@30fps, Pre-installed 4TB Hard Drive
#129272	NVR304-32C, 32-Channel Network Video Recorder, Record 32CH 4K@30fps, Live View/Playback 4CH 4K@30fps, Supports up to 4x 10TB Hard Drive (Not Included)
#129273	NVR304-32C, 32-Channel Network Video Recorder, Record 32CH 4K@30fps, Live View/Playback 4CH 4K@30fps, Pre-installed 4TB Hard Drive
#138720	NVR716-64C, 64-Channel Network Video Recorder, Record 64CH 4K@30fps, Live View/Playback 4CH 4K@30fps, Supports up to 16x10TB Hard Drive (Not Included)

A solid red circle positioned to the left of the title text.

IPC204-2M-D Camera Data Sheet

Contents

Overview	3
Key features	3
Specifications	5
Dimensions	8
Additional information	8
Document history	8

Overview

With the max resolution of 1920x1080 at 30fps, 2MP dome network cameras can provide a high-definition professional surveillance and security solution. Adopting the smart IR technology, the 2MP dome cameras can also deliver clear video at night, with the IR range of up to 30m (98ft) or 40m (131ft). Smart encoding technology and H.265 compression code can save 75% disk space and reduce the monitoring cost. Designed for indoor and outdoor environments, it is IP67 weatherproof, ideal for houses, shops and other SMBs.

- Captures 2MP Full HD Video
- With IR LEDs, Night Vision Distance up to 40m (131ft)
- Smart H.265+ Reduces Bandwidth and Storage, While Preserving High Image Quality
- Water and Dust Resistant (IP67), Vandal Resistant (IK10)
- Focusing on Human Body Detection



Key features

Plug and play PoE connection

With only a single ethernet cable to get powered and transmit video, PoE (Power over Ethernet) cameras allow you to DIY their positions anywhere you want. No need of a separate power adapter for power supply of each camera, simplifying installation and helping to keep costs low.

120dB true WDR

Cameras with True Wide Dynamic Range (True WDR) can produce images even under varying light conditions. It can also maintain proper image brightness, exposure and contrast to ensure good image clarity. WDR is measured in dB. A WDR of range (120dB) can capture greater scale of brightness.

3D DNR

Developed for shooting at night or in dimly lit places, 3D Digital Noise Reduction (DNR) decreases picture noise and reduces colour mixture errors. 3D DNR removes the grainy fuzzy appearances of low light images, will handle moving objects without leaving tails behind, and in low light, it makes an image clearer and sharper compared to no noise reduction or 2D DNR. 3D DNR is essential to producing a clear image from your security cameras.

Smart IR technology

Smart IR technology can detect the infrared (IR) wavelengths, enabling the cameras to see even in low light condition or in complete darkness, and providing protection day and night.

IP67 protection

IP67 rated housing protects the camera against rain and dust. Capable of withstanding temperatures from -30 ~ 60 ° C (-22~140° F), the cameras perform well even in demanding environments.

Smart behavior detection

With advanced video algorithm, cameras support smart behavior detections, such as motion detection, line-crossing and area intrusion. Focusing on human body, smart behavior detections enjoy the reduction of false alarm, and send instant notifications when detecting intrusion targets.

H.265 and smart encoding technology

Smart encoding technology can reduce storage costs without sacrificing resolution and frame rate. Under the same configuration, H.265 with smart encoding technology only costs one hard disk to store the same video record which needs four hard disks under H.264, saving 75% storage cost.

Multiple ways of management

The camera supports different ways of management. Free monitoring softwares and Apps are available to view, manage and record the camera through the connected NVR, computer or mobile phone.

I Specifications

Table 1 shows the technical specification for FS IPC204-2M-D.

Table 1. Technical specification

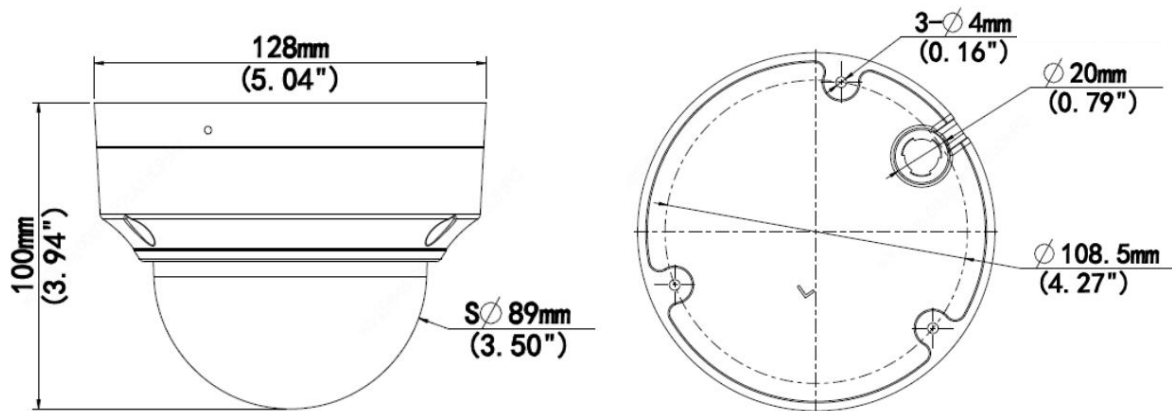
Camera	
Image Sensor	1/2.7" Progressive Scan CMOS
Max.Resolution	1920x1080
Min. Illumination	Colour: 0.005Lux (F1.6, AGC ON) 0Lux with IR
S/N	>52dB
Shutter Speed	Auto/Manual, 1- 1/100000s
3-Axis Adjustment	Pan: 3° - 360° Tilt: 0° - 70° Rotate: 3° - 360°
Lens	
Focal Length (mm)	2.8-12
Aperture	F1.6
Field of View (H)	108.05° - 32.59°
Field of View (V)	56.81° - 18.36°
Field of View (D)	119.91° - 36.53°
DORI	
DORI Distance (m)	Detect: 42-180 Observe: 16.8-72 Recognize: 8.4-36 Identify: 4.2-18
Illuminator	
Day/Night	Support
IR-cut Filter	Support
IR Range	40m (131ft)

Wavelength	850nm
IR On/Off Control	Auto / Manual
Video	
Video Compression	H.265, H.264, MJPEG
H.264 Code Profile	Baseline Profile, Main Profile, High Profile
Video Bit Rate	128 Kbps to 16 Mbps
9:16 Corridor Mode	Support
On-Screen Display (OSD)	Up to 4 OSDs
Privacy Mask	Up to 4 areas
Region of Interest (ROI)	Up to 8 Areas
Motion Detection	Up to 4 areas
Image	
Wide Dynamic Range (WDR)	120dB
White Balance	Auto/Outdoor/Fine Tune/Sodium Lamp/Locked/Auto2
Digital Noise Reduction	2D/3D DNR
Flip	Normal/Vertical/Horizontal/180° /90° Clockwise/90° Anti-clockwise
Dewarping	--
HLC	Support
BLC	Support
Digital Defog	Support
Events	
Behavior Detection	Cross line, intrusion(based on human body detection)motion detection, tampering alarm, audio detection
General Function	Watermark, IP address filtering, access policy, ARP protection, RTSP authentication, user authentication

Storage	
Edge Storage	Micro SD, up to 128GB
Network Storage	ANR, NAS (NFS)
Network	
Protocols	IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, RTP, RTSP, RTCP, DNS, DDNS, NTP, FTP, UPnP, HTTP, HTTPS, SMTP, SSL, QoS, SNMP
Compliance	NDAA Section 889 compliant
Client	Guard Station, Guard Viewer
Web Browser	Plug-in Required Live View: IE9+, Chrome 41 and below, Firefox 52 and below Plug-in Free Live View: Chrome 57.0+, Firefox 58.0+, Edge 16+, Safari 11+
Audio	
Audio Compression	G.711
Suppression	Support
Audio Sampling Rate	8KHZ
Built-in Microphone	Support
Interface	
Network	10M/100M Base-TX Ethernet
Reset Button	Support
General	
Power	DC 12V±25%, PoE (IEEE 802.3af)
Dimensions (ØxH)	Φ128mmx100mm(Ø5.0" x 3.9")
Weight	0.66kg (1.46lb)
Material	Metal + Plastic

Operating Temperature	-22° F to 140° F (-30° C to 60° C)
Storage Temperature	-22° F to 140° F (-30° C to 60° C)
Operating Humidity	≤ 95% RH (Non-condensing)
Storage Humidity	≤ 95% RH (Non-condensing)
Surge Protection	6KV
Ingress Protection	IP67, IK10
Warranty	2 Years

Dimensions



Additional information

For more information about the IPC204-2M-D camera, contact your account manager or visit <https://www.fs.com/products/129251.html>

Document history

New or revised topic	Described in	Date
Updates to FS IPC204-2M-D Camera Data Sheet	Updated all	2/28/2023



Shenzhen (China)

Address: 24F, Yingfeng Center, Haitian 2nd Rd,
Nanshan District, Shenzhen
Tel: +86 (755) 8357 1351
Email: sales@feisu.com

Delaware (United States)

Address: 380 Centerpoint Blvd, New Castle,
DE 19720, United States
Tel: +1 (888) 468 7419
Email: us@fs.com

Munich (Germany)

Address: NOVA Gewerbepark Building 7, Am
Gfild 7,85375 Neufahrn bei Munich, Germany
Tel: +49 (0) 8165 4099 260
Email: de@fs.com

Singapore

Address: 30A Kallang Pl, #11-10/11/12 Singapore
339213
Tel: +65 6443 7951
Email: sg@fs.com

Wuhan (China)

Address: 9-14F, Optical Valley Software Park
A7, Guanshan Ave, Wuhan
Tel: +86 (027) 8808 9195
Email: sales@feisu.com

Birmingham (United Kingdom)


Address: Regus Edmund House, 12-22 Newhall
Street, Birmingham, B3 3AS
Tel: +49 (0) 8165 4099 260
Email: uk@fs.com

Melbourne (Australia)

Address: 57-59 Edison Rd, Dandenong South,
VIC 3175, Australia
Tel: +61 3 9693 3488
Email: au@fs.com

Tokyo (Japan)

Address: JS Progress Building, 4-1-23 Heiwajima,
Ota-ku, Tokyo 〒143-0006
Tel: 03-5826-8305
Email: jp@fs.com



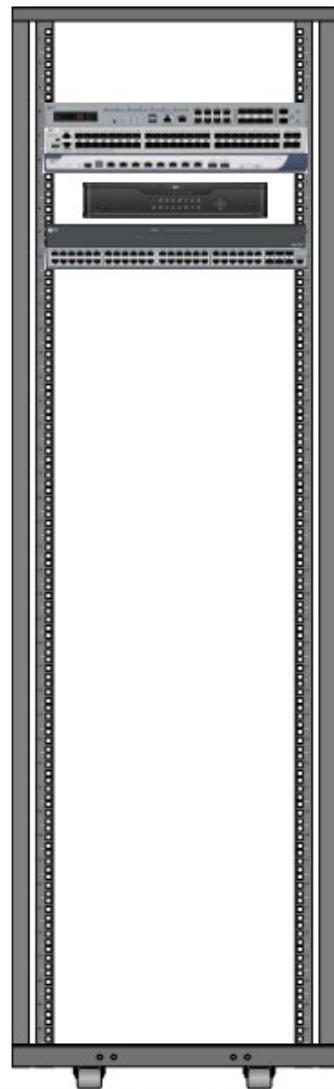
FS has several offices around the world. Addresses, phone numbers are listed on the FS Website at https://www.fs.com/contact_us.html
FS and FS logo are trademarks or registered trademarks of FS in the U.S. and other countries.

Da apparato	a Apparato	tipo connessione	Numerosità	Note
Switch L2 POE	Switch L3	1GB f.o	1	Link verso i Rack il Centro Stella
Switch L2 POE	Access Point 1	Ethernet	1	senza iniettore POE
Switch L2 POE	Access Point 2	Ethernet	1	senza iniettore POE
Switch L2 POE	IP Cam	Ethernet	1	senza iniettore POE
Switch L2 POE	Ip Phone	Ethernet	1	senza iniettore POE

Le restanti porte sono disponibili per collegare PDL, qualsiasi altro apparato. Da tenere in considerazione le potenze in gioco

Da apparato	a Apparato	tipo connessione	Numerosità	Note
Firewall	Switch L3	1GB f.o	1	
Switch L3	Switch L2 POE	1GB f.o	19	Sono i link verso i Rack satelliti presenti (aule o ambienti di lavoro)
Switch L3	Switch L2 CS	1GB f.o	1	
Switch L3	IP PBX	Ethernet	1	
Switch L3	NVR	Ethernet	1	
Switch L3	Controller wifi	1GB f.o	1	
Switch L2 CS	Access Point	Ethernet	1	fornitura con iniettore POE
Switch L2 CS	IP Cam	Ethernet	1	fornitura con iniettore POE

Le restanti porte sono disponibili per collegare server, storage e qualsiasi altro apparato.



Rack 42U Centro Stella Parte Anteriore

RU 4: Firewall
Voce 11

RU 5: Switch L3
Voce 10

RU 6: Controller WiFi
Voce 14

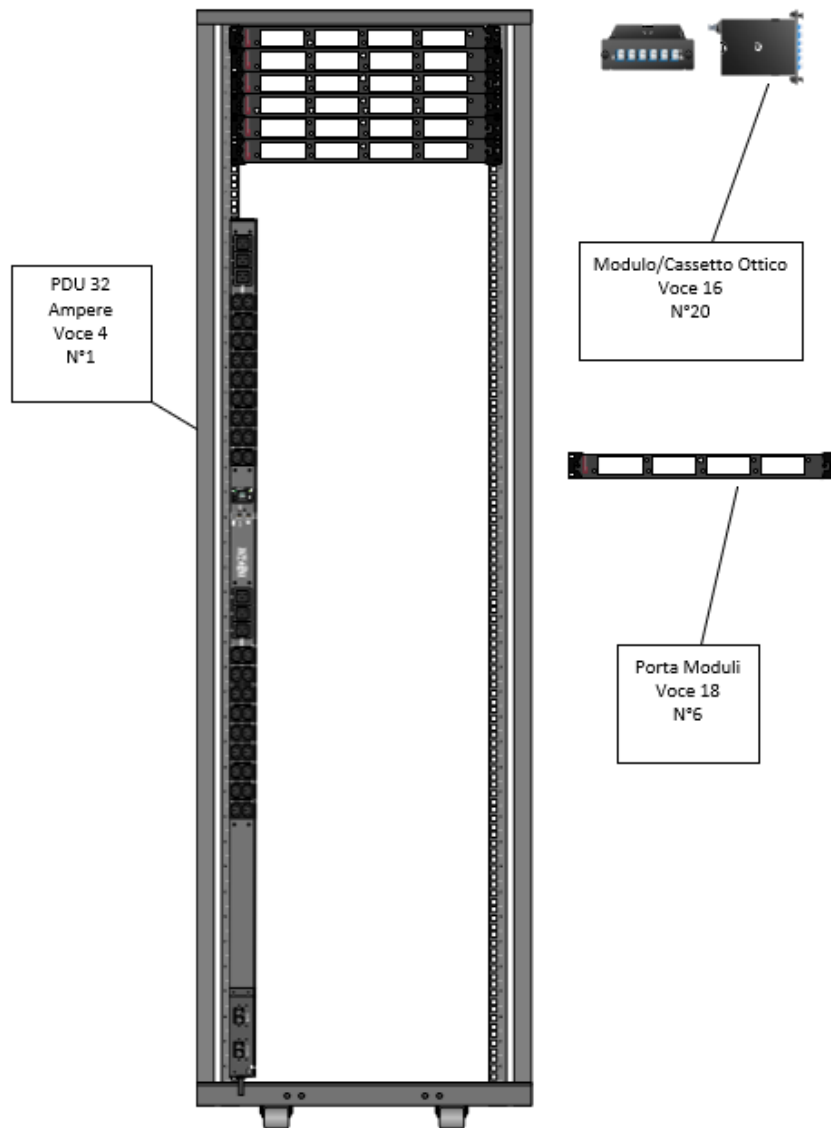
RU 7 e 8: NVR con adattatori
o vassoio
Voce 15

RU 9: IP PBX
Voce 17

RU 10: Switch L2 CS
Voce 13

Nota 1: Le unità dalla 1 alla 3
si riservano per i provider di
servizi Internet e fonia

Note 2: le restanti unità sono
disponibili per l'installazione
di server, storage, etc,...



Rack 42U Centro Stella Parte Posteriore