

8-Port 10/100/1000T 802.3bt PoE + 16-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Managed AV Switch



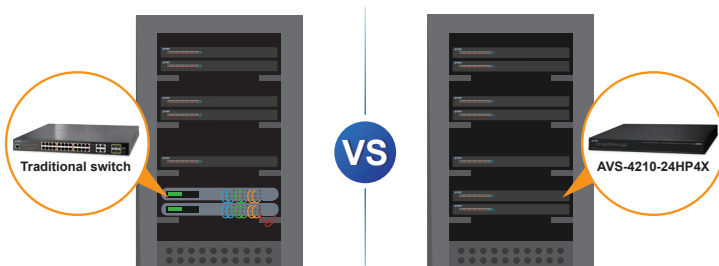
Optimized Integration for Professional AV Applications

Planet's latest innovation, **AVS-4210-24HP4X**, is specifically designed for the evolving needs of the Professional AV industry. It is a **Layer 2/4 Gigabit Ethernet PoE+/PoE++ switch** equipped with **24 10/100/1000BASE-T RJ45 ports** and **4 10G SFP+ slots for higher uplink bandwidth**. In the realm of Power over Ethernet (PoE), the AVS-4210-24HP4X offers robust **IEEE802.3bt PoE++ output on Ports 1-8**, perfect for high-powered AV devices, while simultaneously providing **IEEE802.3at PoE+ support on Ports 9-24**, making it versatile for a wide range of applications. The switch boasts a total **450-watt PoE budget**, establishing it as a robust powerhouse capable of efficiently supplying power to a range of devices like cameras, speakers and displays in the Pro AV applications.



Enhanced Cable Management and Aesthetics for AV Racks

Traditional switches used in AV racks were not designed with the AV industry's specific needs in mind, resulting in inconvenient cable management and difficult multitasking for both installers and users. This was further compounded by a visual inconsistency, as the cabling of other Pro AV devices, such as amplifiers and media players, is typically located at the back, in contrast to the front-facing cabling of the traditional switches. Planet's Pro AV switch addresses these issues by **repositioning the RJ45 ports and display panel**, enhancing both cable management and aesthetic appeal.



Physical Port

- **8 10/100/1000BASE-T ports with 95W 802.3bt PoE++ injector function** (Ports 1 to 8)
- **16 10/100/1000BASE-T ports with 32W 802.3at PoE+ injector function** (Ports 9 to 24)
- **4 10GBASE-SR/LR SFP+ slots**, backward compatible with 100/1G/2.5GBASE-X SFP transceivers (Ports XG1 to XG4)
- RJ45 to DB9 console interface for switch basic management and setup

Pro AV Design

- LED indicators on the front panel and cabling at the back enhance visual appeal and facilitate installation.
- Dual UI design features a streamlined Pro AV interface and a conventional standard UI
- Pre-configured IGMP snooping enables instant multicasting functionality upon powering on
- Pre-configured Dante and NDI templates simplify the configuration process for immediate plug-and-play capability
- Fanless mode eliminates the fan noise, ensuring disturbance-free operation

Switching

- Hardware-based 10/100Mbps (half/full duplex), 1000Mbps (full duplex), auto-negotiation and auto MDI/MDI-X
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 16K MAC address table size
- 12K jumbo frame
- Automatic address learning and address aging

Some of the features listed below are only available in the standard UI.

Power over Ethernet

- Compliant with IEEE 802.3bt Power over Ethernet Plus Plus
- **8 ports supporting IEEE 802.3bt PoE++** with each offering up to 95 watts (ports 1-8)
- **16 ports supporting IEEE 802.3at PoE+** with each offering up to 32 watts (ports 9-24)
- Total PoE power budget of **450 watts**
- **Fanless mode**
- Automatic detection of powered devices (PD)

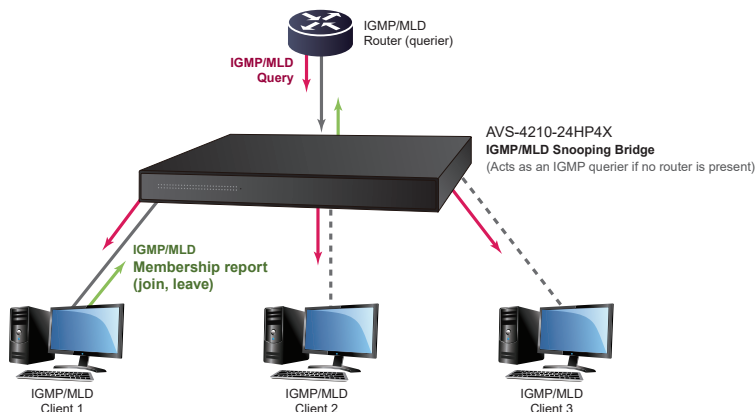
Streamline AV-over-IP Streaming with Simplified, Intuitive Web UI Configuration

Traditional switches typically require advanced networking know-how for AV-over-IP streaming, presenting a significant hurdle. Planet's innovative AV switch, on the other hand, boasts a **simplified, intuitive web interface**, facilitating effortless adjustments to basic settings and enabling **rapid AV-over-IP system deployment**. This reduces the reliance on extensive technical skills, broadening access to AV networking. Additionally, it **retains the standard switch setting UI, providing flexibility** for users with a strong grasp of networking.



Ready-to-Use Multicast Management

IGMP snooping and MLD snooping are **available immediately upon powering up** the Pro AV switch. This feature ensures efficient management of multicast traffic, a critical aspect in AV networks where multiple streams of content are often delivered simultaneously. By pre-configuring these settings, the switch can intelligently manage bandwidth and optimize network performance, ensuring high-quality, uninterrupted audiovisual experiences.



- Built-in circuit protection to prevent power interference between ports
- Remote power feeding up to 100 meters
- Advanced PoE management capabilities:
 - Total PoE power budget control
 - Per port PoE function enable/disable
 - PoE port power feeding priority
 - Per PoE port power limitation
 - Detection of PD classification
- Intelligent PoE features
 - PD alive check
 - PoE schedule
 - Scheduled power recycling

Layer 2 Features

- Supports VLAN
 - IEEE 802.1Q tagged VLAN
 - Provider bridging (VLAN Q-in-Q, IEEE 802.1ad) support
 - Protocol VLAN
 - Private VLAN (Protected port)
 - Management VLAN
 - GVRP
- Supports Spanning Tree Protocol
 - STP (Spanning Tree Protocol)
 - RSTP (Rapid Spanning Tree Protocol)
 - MSTP (Multiple Spanning Tree Protocol)
 - STP BPDU Guard, BPDU Filtering and BPDU Forwarding
- Supports Link Aggregation
 - IEEE 802.3ad Link Aggregation Control Protocol (LACP)
 - Cisco ether-channel (static trunk)
 - Maximum 8 trunk groups, up to 8 ports per trunk group
- Supports port mirror (many-to-1)
- Loop protection to avoid broadcast loops
- Supports ERPS (Ethernet Ring Protection Switching)
- Link Layer Discovery Protocol (LLDP)

Quality of Service

- Ingress and egress rate limit per port bandwidth control
- Storm control support
 - Broadcast/Unknown unicast/Unknown multicast
- Traffic classification
 - IEEE 802.1p CoS
 - TOS/DSCP/IP precedence of IPv4/IPv6 packets
- Strict priority and Weighted Round Robin (WRR) CoS policies

Popular Pre-configured Audiovisual IP Networking Protocol

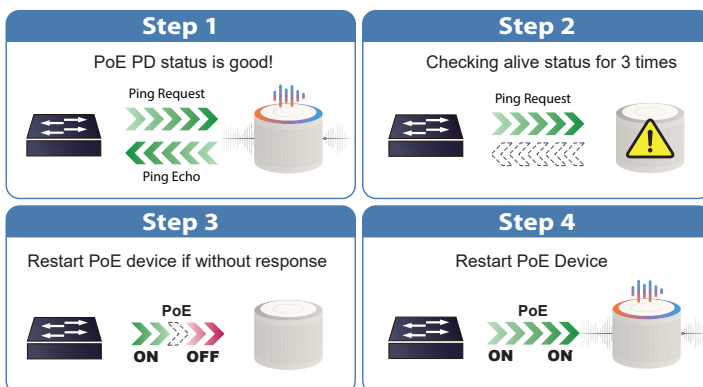
Planet's Pro AV switch seamlessly integrates key Audio/Video IP Networking Protocols like Dante and NDI, enabling effortless plug-and-play functionality. This eliminates the complexity of configuring protocols, streamlining the setup process.

Dante is widely used in **professional audio settings** like live sound in residential AV systems, recording studios, broadcast, and commercial installations, allowing for flexible and scalable audio networking without the need for traditional, heavy multi-core audio cables. It supports various audio channels and can handle complex setups with ease, making it a popular choice in the AV industry.

On the other hand, **NDI** is designed to be easy to use and accessible, **supporting multiple video standards and resolutions**. It is particularly popular in broadcast and live event production due to its efficiency and flexibility, allowing for the easy setup and reconfiguration of video networks without the need for extensive cabling or specialized infrastructure. Planet's Pro AV switch is designed to be compatible with NDI protocol.

Power-over-Ethernet for Flexibility and Remote Control

In modern Pro AV setups, using PoE for devices such as microphones, speakers, and displays offers ease of installation and enhanced flexibility. Planet's intelligent PoE management, including PD Alive Check, can automatically detect and restart non-responsive devices, simplifying maintenance and improving efficiency and convenience.



Link Aggregation & 10G SFP+ Connectivity on High-bandwidth Networks

In Pro AV applications, scenarios often demand high-bandwidth connectivity, such as video streaming or transferring large video files across multiple switches in studio, theater or auditorium setups. **Link aggregation** plays a vital role in these scenarios, ensuring that networks can manage high traffic loads efficiently without experiencing bottlenecks which is crucial for maintaining the quality and consistency of AV streams. Employing Link Aggregation technology alongside **10G SFP+** connectivity offers an unparalleled, streamlined experience, enhancing efficiency and performance in ways previously unimagined.

Multicast

- Supports IPv4 IGMP snooping v2 and v3
- Supports IPv6 MLD snooping v1, v2
- IGMP querier mode support
- IGMP snooping port filtering
- MLD snooping port filtering

Security

- Authentication
 - Built-in RADIUS client to cooperate with the RADIUS servers
 - RADIUS/TACACS+ login user access authentication
 - DHCP Option 82
- Access control list
 - IPv4/IPv6 IP-based ACL
 - IPv4/IPv6 IP-based ACE
 - MAC-based ACL
 - MAC-based ACE
- MAC security
 - Static MAC
 - MAC filtering
- Port security for source MAC address entries filtering
- DHCP snooping to filter distrusted DHCP messages
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding
- IP source guard prevents IP spoofing attacks
- DoS attack prevention

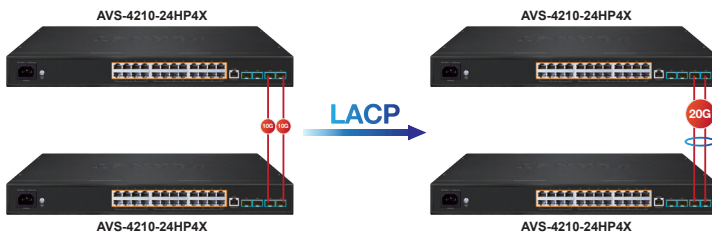
Management

Pro AV UI Specific Settings

- Intuitive Network Profile (VLAN) setup
 - Color-coded groups for straightforward identification
 - Pre-set profile templates
 - ▶ Dante, NDI, Data
 - IGMP querier designation

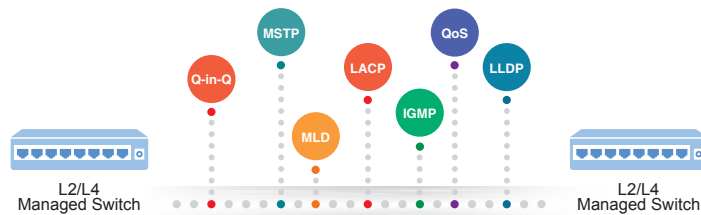
Standard UI

- IPv4 and IPv6 dual stack management
- Switch management interface
 - Web switch management
 - Console and telnet command line interface
 - SNMP v1 and v2c switch management
 - SSHv2, TLSv1.2 and SNMP v3 secure access
- SNMP Management
 - Four RMON groups (history, statistics, alarms and events)
 - SNMP trap for interface link up and link downnotification



Robust Layer 2 Features

The AVS-4210-24HP4X can be programmed for advanced switch management functions such as dynamic port link aggregation, 802.1Q VLAN and **Q-in-Q VLAN**, **Multiple Spanning Tree Protocol (MSTP)**, **loop and BPDU guard**, **IGMP snooping**, and **MLD snooping**. Via the link aggregation, the AVS-4210-24HP4X allows the operation of a high-speed trunk to combine with multiple ports, and supports fail-over as well. Also, the **Link Layer Discovery Protocol (LLDP)** is the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.



Remote Management Solution

PLANET's **Universal Network Management System (UNI-NMS)** and CloudViewer/CloudViewerPro app support IT staff by remotely managing all network devices and monitoring PDs' operational statuses. Thus, they're designed for both the enterprises and industries where deployments of PDs can be as remote as possible, without having to go to the actual location once a bug or faulty condition is found. With the UNI-NMS or CloudViewer/CloudViewerPro app, all kinds of businesses can now be speedily and efficiently managed from one platform.

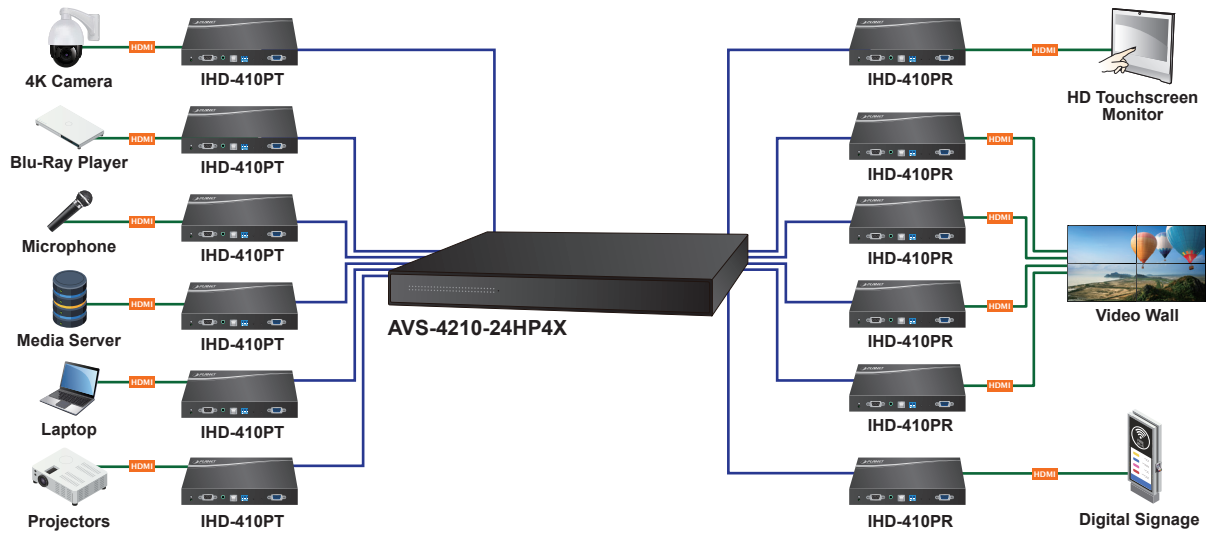
- User privilege levels control
- Built-in Trivial File Transfer Protocol (TFTP) client
- Static and DHCP for IP address assignment
- System maintenance
 - Firmware upload/download via HTTP/TFTP
 - Configuration upload/download through HTTP/TFTP
 - Dual images
 - Hardware-based reset button for system reboot or reset to factory default
- SNTP Network Time Protocol
- Network Diagnostic
 - SFP-DDM (digital diagnostic monitor)
 - Cable diagnostics
 - ICMPv4/ICMPv6 remote ping
- Link Layer Discovery Protocol (LLDP) and LLDP-MED
- Event message logging to remote syslog server
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS and CloudViewer/CloudViewerPro for deployment management



Applications

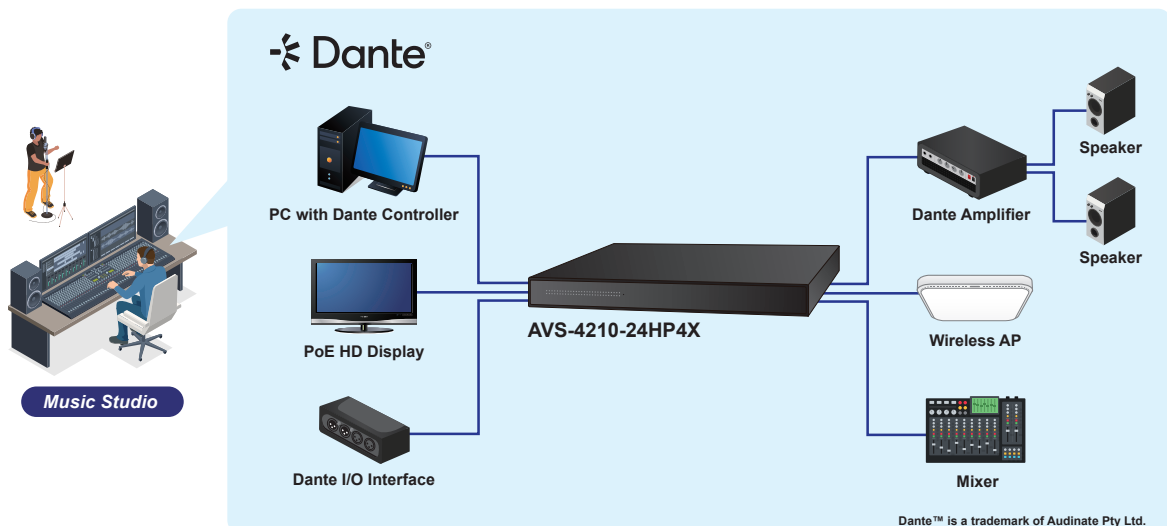
Streamline Multimedia Experience with Planet's Tailored Pro AV Switching Solution

The AVS-4210-24HP4X Pro AV switch facilitates the convergence of diverse AV inputs from devices such as 4K cameras, microphones, Blu-Ray players, media server, and laptops. These inputs are then encoded, transmitted over Ethernet, and decoded to various output devices, including HDTV touchscreens, digital signage, projectors, video walls, and smart TVs.



Seamless Audiovisual Integration with Dante-enabled AVS-4210-24HP4X

The AVS-4210-24HP4X, a central hub expertly crafted for Dante-compliant devices, enables a unified and sophisticated audiovisual setup. Laptops, amplifiers, and microphones are connected to your network with ease. This Ethernet switch not only simplifies the connections but also ensures top-tier, studio-quality sound across the entire system.



Dante™ is a trademark of Audinate Pty Ltd.

Specifications

| | |
|---------------------------------------|---|
| Product | AVS-4210-24HP4X |
| Hardware Specifications | |
| Copper Ports | 24 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports |
| PoE Injector Port | 8 ports with 802.3bt PoE++ injector function (Ports 1 to 8) 16 ports with 802.3at PoE+ injector function (Ports 9 to 24) |
| SFP Ports | 4 10GBASE-SR/LR SFP+ interfaces (Port XG1 to Port XG4) Backward compatible with 100/1G/2.5GBASE-X SFP transceivers |
| Console | 1 x RJ45-to-RS232 serial port (115200, 8, N, 1) |
| Reset Button | < 5 sec: System reboot > 5 sec: Factory default |
| Power Requirements | AC 100~240V, 50/60Hz |
| Power Consumption/ Dissipation | Maximum 15.1 watts / 51.5 BTU (system on) Maximum 533 watts/1818.7 BTU (full loading) |
| Dimensions (W x D x H) | 440 x 207 x 44mm |
| Weight | 3,443g |
| Installation | Rack mount |
| ESD Protection | Contact Discharge 6KV DC Air Discharge 8KV DC |
| LED | System Power LED (Green) SYS LED (Green) Ports 10/100/1000 RJ45 Ports LNK/ACT (Green) 10G SFP+ Interface LNK/ACT (Green) PoE-in-Use (Amber) |
| Switching Specifications | |
| Switch Architecture | Store-and-Forward |
| Switch Fabric | 128Gbps/non-blocking |
| Switch Throughput@64 bytes | 95.23Mpps @64 bytes |
| MAC Address Table | 16K entries |
| Shared Data Buffer | 12Mbits |
| Flow Control | IEEE 802.3x pause frame for full duplex Back pressure for half duplex |
| Jumbo Frame | 12 Kbytes |
| Power over Ethernet | |
| PoE Standard | IEEE 802.3bt PoE++ PSE (Ports 1 to 8) IEEE 802.3af/at PoE+ PSE (Ports 9 to 24) |
| PoE Power Supply Type | End-span/802.3bt (Ports 1 to 8) End-span (Ports 9 to 24) |
| Power Pin Assignment | 802.3bt/UPoE: 1/2(-), 3/6(+), 4/5(+), 7/8(-) 802.3at PoE: End-span: 1/2(-), 3/6(+) |
| PoE Power Output | Port 1 to 8 – 95W (max.) Port 9 to 24 – 32W (max.) |
| PoE Power Budget | 450 watts (max.) 200 watts @ fanless mode |
| Max. Number of 95W 802.3bt Type 4 PDs | 5 |
| Max. Number of 60W 802.3bt Type 3 PDs | 8 |
| Max. Number of 30W 802.3at Type 2 PDs | 16 |
| PoE Management Functions | |
| PoE Management | System PoE Admin Mode Fanless Mode Consumption Mode/Allocation Mode Temperature Threshold |
| Enhanced PoE Mode | Standard/Legacy/UPoE |
| Active PoE Device Live Detection | Yes |
| PoE Power Recycling | Yes, daily or predefined schedule |
| PoE Schedule | 4 schedule profiles |
| PoE Extended Mode | Yes, max. up to 250 meters |
| PoE Management Functions | |
| Port Mirroring | TX/RX/Both Many-to-1 monitor Up to 4 sessions |

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|------------------------------|--|
| VLAN | 802.1Q tagged VLAN 802.1ad Q-in-Q tunneling (VLAN stacking) Protocol VLAN Private VLAN (Protected port) GVRP Management VLAN Up to 256 VLAN groups, out of 4094 VLAN IDs |
| Link Aggregation | IEEE 802.3ad LACP and static trunk Supports 8 groups with 8 ports per trunk |
| Spanning Tree Protocol | IEEE 802.1D Spanning Tree Protocol (STP) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) STP BPDU Guard, BPDU Filtering and BPDU Forwarding |
| IGMP Snooping | IPv4 IGMP snooping v2, v3 IGMP querier Up to 256 multicast groups |
| MLD Snooping | IPv6 MLD snooping v1, v2, up to 256 multicast groups |
| Access Control List | IPv4/IPv6 IP-based ACL/MAC-based ACL IPv4/IPv6 IP-based ACE/MAC-based ACE |
| QoS | 8 mapping IDs to 8 level priority queues - Port number - 802.1p priority - DSCP/IP precedence of IPv4/IPv6 packets Traffic classification based, strict priority and WRR Ingress/Egress Rate Limit per port bandwidth control |
| Ring | Supports ERPS, and complies with ITU-T G.8032 Recovery time < 450ms |
| Security Functions | |
| Access Control List | IPv4/IPv6 IP-based ACL/MAC-based ACL IPv4/IPv6 IP-based ACE/MAC-based ACE Max. 256 ACL entries |
| Port Security | Built-in RADIUS client to co-operate with RADIUS server RADIUS/TACACS+ user access authentication |
| MAC Security | IP-MAC port binding MAC filter Static MAC address, max. 256 static MAC entries |
| Enhanced Security | DHCP Snooping and DHCP Option82 STP BPDU guard, BPDU filtering and BPDU forwarding DoS attack prevention ARP inspection IP source guard |
| Management Functions | |
| Basic Management Interfaces | Console Web browser Telnet SNMP v1, v2c |
| Secure Management Interfaces | SSHv2, TLSv1.2, SNMP v3 |
| System Management | Firmware upgrade by HTTP/TFTP protocol through Ethernet network Configuration upload/download through HTTP/TFTP LLDP protocol SNTP PLANET Smart Discovery Utility PLANET NMS/CloudViewer/CloudViewerPro |
| Event Management | Remote/Local Syslog System log |
| SNMP MIBs | RFC 1213 MIB-II RFC 1215 Generic Traps RFC 1493 Bridge MIB RFC 2674 Bridge MIB Extensions RFC 2737 Entity MIB (Version 2) RFC 2819 RMON (1, 2, 3, 9) RFC 2863 Interface Group MIB RFC 3635 Ethernet-like MIB RFC 3621 Power Ethernet MIB |

| Standards Conformance | | |
|-----------------------|--|---|
| Regulatory Compliance | FCC Part 15 Class A, CE | |
| Standards Compliance | IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000BASE-T IEEE802.3ae 10Gb/s Ethernet IEEE 802.3x Flow Control and Back Pressure IEEE 802.3ad Port Trunk with LACP IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN Tagging IEEE 802.1ab LLDP IEEE 802.3af Power over Ethernet | IEEE 802.3at Power over Ethernet Plus IEEE 802.3bt Power over Ethernet Plus Plus IEEE 802.3az for Energy-Efficient Ethernet RFC 768 UDP RFC 783 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP v1 RFC 2236 IGMP v2 RFC 3376 IGMP v3 RFC 2710 MLD v1 RFC 3810 MLD v2 ITU-T G.8032 ERPS Ring |
| Environment | | |
| Operating Temperature | 0 ~ 50 degrees C | |
| Storage Temperature | -10 ~ 60 degrees C | |
| Humidity | 5 ~ 95% (non-condensing) | |

Ordering Information

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|-----------------|--|
| AVS-4210-24HP4X | 8-Port 10/100/1000T 802.3bt PoE + 16-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Managed AV Switch |
|-----------------|--|

Related Products

| | |
|----------------|--|
| ICG-2515-NR | Industrial 5G NR Cellular Gateway with 5-Port 10/100/1000T |
| ICG-2515W-NR | Industrial 5G NR Cellular Wireless Gateway with 5-Port 10/100/1000T |
| IVR-100 | Industrial 5-Port 10/100/1000T VPN Security Gateway |
| ICG-2510WG-LTE | Industrial 4G LTE Cellular Wireless Gateway with 5-Port 10/100/1000T |
| VCG-1500WG-LTE | Vehicle 4G LTE Cellular Wireless Gateway with 5-Port 10/100TX |
| WGR-500-4PV | Industrial Wall-mount Gigabit Router with 4-Port 802.3at PoE+ and LCD Touch Screen |
| WGR-500 | Industrial 5-Port 10/100/1000T Wall-mount Gigabit Router |
| XT-925A | 2-Port 10GBASE-X SFP+ + 1-Port 10GBASE-T Managed Media Converter |

Available SFP/SFP+ Modules

10 Gigabit Ethernet Transceiver (10GBASE-X SFP+)

| | |
|----------|--|
| MTB-LB40 | 1-Port 10GBASE-BX SFP+ Fiber Optic Module - 40km (TX:1330nm RX:1270nm) |
| MTB-LA40 | 1-Port 10GBASE-BX SFP+ Fiber Optic Module - 40km (TX:1270nm RX:1330nm) |
| MTB-LB20 | 1-Port 10GBASE-BX SFP+ Fiber Optic Module - 20km (TX:1330nm RX:1270nm) |
| MTB-LA20 | 1-Port 10GBASE-BX SFP+ Fiber Optic Module - 20km (TX:1270nm RX:1330nm) |
| MTB-SR | 1-Port 10GBASE-SR SFP+ Fiber Optic Module - 300m |
| MTB-LR | 1-Port 10GBASE-LR SFP+ Fiber Optic Module - 10km |
| MTB-LA60 | 1-Port 10GBASE-BX SFP+ Fiber Optic Module - 60km (TX:1270nm RX:1330nm) |
| MTB-LB60 | 1-Port 10GBASE-BX SFP+ Fiber Optic Module - 60km (TX:1330nm RX:1270nm) |
| MTB-RJ | 1-Port 10GBASE-T SFP+ Copper Fiber Optic Module - 30m |
| MTB-LR40 | 1-Port 10GBASE-LR SFP+ Fiber Optic Module - 40km |
| MTB-SR2 | 1-Port 10GBASE-SR SFP+ Fiber Optic Module - 2km |
| MTB-LR20 | 1-Port 10GBASE-LR SFP+ Fiber Optic Module - 20km |
| MTB-LR60 | 1-Port 10GBASE-LR SFP+ Fiber Optic Module - 60km |
| MTB-LR80 | 1-Port 10GBASE-LR SFP+ Fiber Optic Module - 80km |
| MTB-LA10 | 1-Port 10GBASE-BX SFP+ Fiber Optic Module - 10km (TX:1270nm RX:1330nm) |
| MTB-LB10 | 1-Port 10GBASE-BX SFP+ Fiber Optic Module - 10km (TX:1330nm RX:1270nm) |

2.5 Gigabit Ethernet Transceiver (2500GBASE-X SFP)

| | |
|------------|---|
| MGB-2GSR | 2.5G SFP Transceiver (Multi-mode, 850nm, DDM, 0~70 degrees C) - 300m |
| MGB-2GLA20 | 2.5G SFP Transceiver (Single mode WDM, TX:1310nm RX:1550nm, DDM, 0~70 degrees C) - 20km |
| MGB-2GLB20 | 2.5G SFP Transceiver (Single mode WDM, TX:1550nm RX:1310nm, DDM, 0~70 degrees C) - 20km |
| MGB-2GLR20 | 2.5G SFP Transceiver (Single mode, 1310nm, DDM) - 20km |
| MGB-2GLR2 | 2.5G SFP Transceiver (Single mode, 1310nm, DDM) - 2km |

Gigabit Ethernet Transceiver (1000GBASE-X SFP)

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|----------|---|
| MGB-GT | SFP-Port 1000BASE-T Module |
| MGB-LX | SFP-Port 1000BASE-LX mini-GBIC module - 20km |
| MGB-SX | SFP-Port 1000BASE-SX mini-GBIC module - 550m |
| MGB-SX2 | SFP-Port 1000BASE-SX mini-GBIC module - 2km |
| MGB-L40 | SFP-Port 1000BASE-LX mini-GBIC module - 40km |
| MGB-L80 | SFP-Port 1000BASE-LX mini-GBIC module - 80km |
| MGB-L120 | SFP-Port 1000BASE-LX mini-GBIC module - 120km |
| MGB-LA10 | SFP-Port 1000BASE-BX (WDM, TX:1310nm) mini-GBIC module - 10km |
| MGB-LB10 | SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 10km |
| MGB-LA20 | SFP-Port 1000BASE-BX (WDM, TX:1310nm) mini-GBIC module - 20km |
| MGB-LB20 | SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 20km |
| MGB-LA40 | SFP-Port 1000BASE-BX (WDM, TX:1310nm) mini-GBIC module - 40km |
| MGB-LB40 | SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 40km |
| MGB-LA80 | SFP-Port 1000BASE-BX (WDM, TX:1490nm) mini-GBIC module - 80km |
| MGB-LB80 | SFP-Port 1000BASE-BX (WDM, TX:1550nm) mini-GBIC module - 80km |

Fast Ethernet Transceiver (100BASE-X SFP)

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|----------|---|
| MFB-FX | SFP-Port 100BASE-FX Transceiver (1310nm) -2km |
| MFB-F20 | SFP-Port 100BASE-FX Transceiver (1310nm) - 20km |
| MFB-FA20 | SFP-Port 100BASE-BX Transceiver (WDM,TX:1310nm) -20km |
| MFB-FB20 | SFP-Port 100BASE-BX Transceiver (WDM,TX:1550nm) -20km |
| MFB-F40 | SFP-Port 100BASE-FX Transceiver (1310nm) - 40KM |
| MFB-F60 | SFP-Port 100BASE-FX Transceiver (1310nm) - 60KM |
| MFB-F120 | SFP-Port 100BASE -FX Transceiver (1550nm) - 120km |