# Multiple Gigabit + 2-Port 1000X SFP Web Smart Ethernet Switch

**PLANET GS-2210 smart Ethernet switch** combined with **NMS** makes network management easier and more efficient. In addition, it is easy to configure whatever application that the industry needs. It features link aggregation, IGMP, QoS, PoE schedule and more to improve the availability of critical business applications.

The GS-2210 PoE+ series provides **8~24 10/100/1000BASE-T** ports featuring **32-watt 802.3at PoE+** and **2 additional Gigabit SFP** slots. With a total power budget of up to **120~260 watts** for different kinds of PoE applications, it provides a quick, safe and cost-effective Power over Ethernet network solution for small businesses and enterprises.

Through the **NMS**, administrators can centrally manage networks of up to **102,400 nodes** from a central office, thereby greatly improving network and power management efficiency. With its user authentication management, combined with the **NMS**, the security of data transmission in modern factory automation systems is enhanced.
The hardware specifications of these models are shown below:

| Models | 10/100/1000T Copper | 100/1000X SFP | PoE Ports | PoE Budget | Power Input |
|---|---|---|---|---|---|
| GS-2210-8T2S | 8 | 2 | -- | -- | AC 100~240V, 50/60Hz |
| GS-2210-16T2S | 16 | 2 | -- | -- | |
| GS-2210-24T2S | 24 | 2 | -- | -- | |
| GS-2210-8P2S | 8 | 2 | 8at | 120w | |
| GS-2210-16P2S | 16 | 2 | 16at | 240w | |
| GS-2210-24P2S | 24 | 2 | 24at | 260w | |

## *UNI-NMS Remote Management Solution*

The GS-2210 series supports PLANET's Universal Network Management System (UNI-NMS) helping 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, all kinds of businesses can now be speedily and efficiently managed from one platform.

## Layer 2 Features

- Complies with the IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z Gigabit Ethernet standard
- Prevents packet loss flow control
  - IEEE 802.3x pause frame flow control in full-duplex mode
  - Back pressure flow control in half-duplex mode
- High performance Store-and-Forward architecture, broadcast storm control, port loopback detection
- 8K MAC address table, automatic source address learning and aging
- Supports VLAN
  - IEEE 802.1Q tag-based VLAN
- Supports Link Aggregation
  - Maximum 8 trunk groups, up to 8 ports per trunk group
  - Cisco ether-channel (static trunk)
- Port mirroring to monitor the incoming or outgoing traffic on a particular port (many-to-1)
- Provides port mirror (many-to-1)

## Quality of Service

- 8 priority queues on all switch ports
- Support for strict priority and WRR (Weighted Round Robin) CoS policies
- Traffic classification
  - IEEE 802.1p CoS/ToS
  - IPv4 DSCP
  - Port-based WRR
- Strict priority and WRR CoS policies

## Multicast

- Supports IPv4 IGMP snooping v1, v2
- IGMP snooping port filtering
  - Flood/Drop
  - DIP Mode

## Security

- Supports DHCP snooping

## Management

- Management IP for IPv4
- Switch Management Interface
  - Telnet Command Line Interface
  - Web switch management
- BOOTP and DHCP for IP address assignment
- Cable diagnostics to detect the cable connection and the approximate location of the cable fault.

GS-2210 Series

- Firmware upload/download via TFTP or HTTP Protocol for IPv4
- Supports ping test function for IP address or domain name
- NTP (Network Time Protocol)
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS for deployment management
- PLANET NMSViewerPro for deployment management

## Power over Ethernet

- Complies with IEEE 802.3at/af Power over Ethernet Plus
- Up to 24 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE power up to 32 watts for each PoE port
- Maximum 120~260-watt PoE budget
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters in standard mode and 250m in extend mode
- PoE management
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE port power feeding priority
  - Per PoE port power limitation
  - PD classification detection
- Intelligent PoE features
  - PD alive check
  - PoE schedule

*Powerful NMSViewerPro Solution that Meets Evolving Network Management Challenges*

The GS-2210 Web Smart Switch series, known for such features as QoS, Link aggregation, PoE, VLANs, IGMP, and so on, provides an eye-catching feature called NMS developed by PLANET to easily and remotely manage and monitor network devices in the local environment from mobile app. This feature not only improves operational convenience, but also ensures users to have real-time control over their network infrastructure. It provides users with an unparalleled experience.

The intuitive interface of the local NMSViewerPro allows administrators to easily perform a variety of tasks, including monitoring traffic, setting configuration, troubleshooting, and more. At the same time, PLANET UNI-NMS application provides real-time alerts and notifications, allowing administrators to respond to any emergency situations anytime, anywhere to ensure the stable operation of the network.
The introduction of this feature demonstrates our sensitivity to user needs and our

commitment to providing a comprehensive and powerful solution to meet evolving network management challenges. We firmly believe that this feature of supporting local NMSViewerPro will bring users a more efficient and flexible management experience.

PLANET NMS and NMSViewerPro app, which with PLANET's free cloud service, allow users to quickly and easily detect, configure, deploy and manage devices remotely. You can just scan the NMS agent's (NMS-500/NMS-1000V) QR code using the mobile application to easily monitor and control the remote network devices via the private cloud.
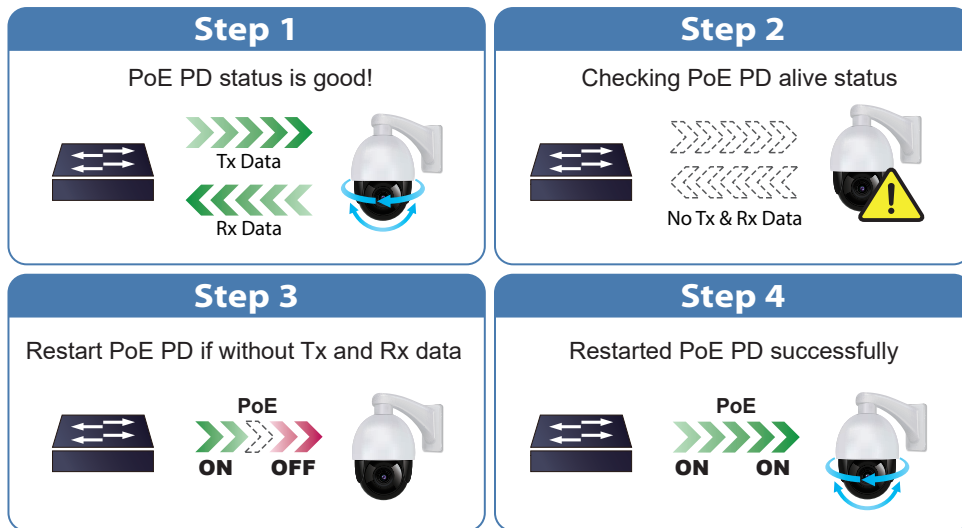
## Built-in Unique PoE Functions for Powered Devices Management

As it is the managed PoE switch for surveillance, wireless and VoIP networks, the GS-2210 PoE+ Series features the following special PoE management functions:

■ PD alive check

■ PoE schedule

■ PoE priority

■ PoE power limit

■ PoE usage monitoring

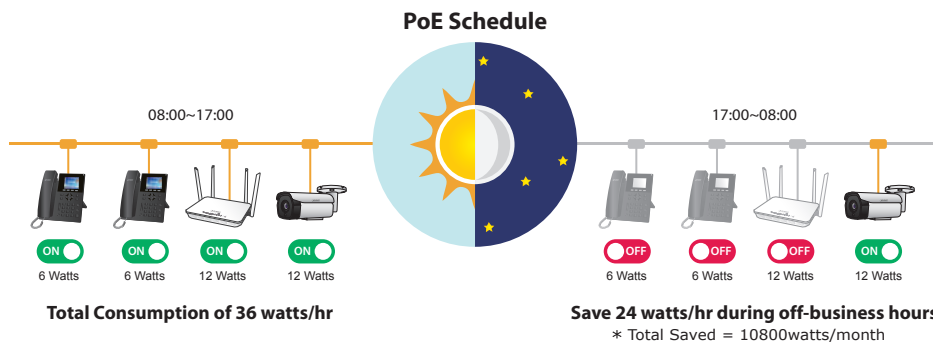## Intelligent Powered Device Alive Check

The GS-2210 PoE+ Series can monitor connected PD status in real time via PD alive check function. Once the PD stops working and responding, the GS-2210 PoE+ Series will resume the PoE power and bring the PD back to work. It will greatly enhance the network reliability through the PoE port resetting the PD's power source and reducing administrator management burden.

| Step 1 | Step 2 |
|---|---|
| PoE PD status is good! | Checking PoE PD alive status |
| Tx Data / Rx Data | No Tx & Rx Data |

| Step 3 | Step 4 |
|---|---|
| Restart PoE PD if without Tx and Rx data | Restarted PoE PD successfully |
| PoE ON OFF | PoE ON ON |

## PoE Schedule for Energy Savings

Under the trend of energy savings worldwide and contributing to environmental protection, the GS-2210 PoE+ Series can effectively control the power supply besides its capability of giving high watts power. The **"PoE schedule"** function helps you to enable or disable PoE power feeding for each PoE port during specified time intervals and it is a powerful function to help SMBs or enterprises save power and money. It also increases security by powering off PDs that should not be in use during non-business hours.

**PoE Schedule**

08:00~17:00

ON 6 Watts    ON 6 Watts    ON 12 Watts    ON 12 Watts

17:00~08:00

OFF 6 Watts    OFF 6 Watts    OFF 12 Watts    ON 12 Watts

**Total Consumption of 36 watts/hr**

**Save 24 watts/hr during off-business hours**
∗ Total Saved = 10800watts/month

## PoE Usage Monitor and Power Control

Through the power usage chart in the web management interface, the GS-2210 PoE+ Series empowers administrators to real-time monitor the power usage status of connected PDs. This capability significantly improves facility management efficiency. Additionally, the switch allows for timely activation or deactivation of PoE ports, providing the ability to power off or reboot connected PDs as needed.

*Robust Layer 2 Features*

The GS-2210 Series can be programmed for basic switch management functions such as port speed configuration, port aggregation, VLAN, **bandwidth control** and **IGMP snooping**. This switch provides **802.1Q tagged VLAN Protocol** functions. By supporting port aggregation, the GS-2210 Series allows the operation of a high-speed trunk combined with multiple ports, and supports fail-over as well. Also, the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.

*Flexibility and Long-distance Extension Solution*

The two mini-GBIC slots built in the GS-2210 Series support SFP auto-detection and dual speed as it features **100BASE-FX** and **1000BASE-SX/LX SFP** (Small Form-factor Pluggable) fiber transceivers to uplink to backbone switch and monitoring center in long distance. The distance can be extended from 550 meters to 2 kilometers (multi-mode fiber) and up to above 10/20/30/40/50/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

*Convenient and Smart ONVIF Devices with Detection Feature*

PLANET has newly developed an awesome feature -- ONVIF Support -- which is specifically designed for cooperating with video IP surveillances. From the GS-2210 Series GUI, you just need one click to search and show all of the ONVIF devices via network application. In addition, you can open the Camera web page via the IP address link to get real-time monitoring information and online/offline status through IP camera, and perform PoE restart control from the GS-2210 PoE+ series GUI.

**ONVIF management functions:**

- Supports PLANET ONVIF IP camera discovery
- A maximum of 24 PLANET ONVIF IP cameras can be powered by one GS-2210 PoE+ switch.
- IP camera MAC address, IP address, port and model name
- Open the camera web page via the IP address hyperlink

# Applications

## PLANET NMSViewerPro Networking Solution

The GS-2210 series effortlessly integrates the functionalities of PLANET NMS and NMSViewerPro, providing users with a seamless and intuitive experience. Leveraging the internet connectivity feature of smartphones enables real-time monitoring of network traffic, configuration settings, and troubleshooting execution. It can access a wealth of device information stored in the cloud, allowing for a comprehensive understanding of your network. Users can benefit from real-time monitoring and control of access points, regardless of their location or time zone.
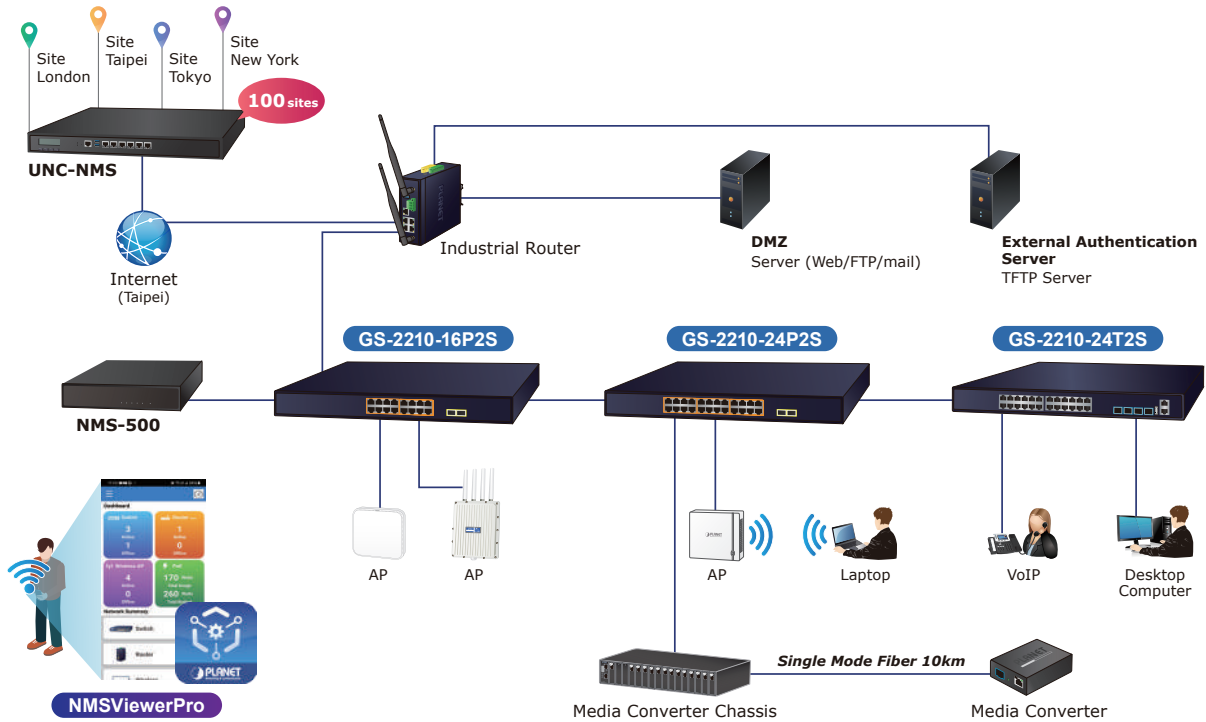


## Department/Workgroup 802.3at PoE+ Network

Providing 8~24 PoE+ in-line power interfaces, the GS-2210 PoE+ Series can easily build a power that centrally controls IP phone system, IP camera system and wireless AP group for enterprises. The GS-2210 PoE+ Series delivers full ports of 802.3af/at compliant Gigabit Ethernet network connectivity with high-performance and cost-effective advantages for the increasing number of PoE IP telephones, PoE IP cameras, PoE wireless access points and other devices applied at the edge of the small or medium enterprise network.
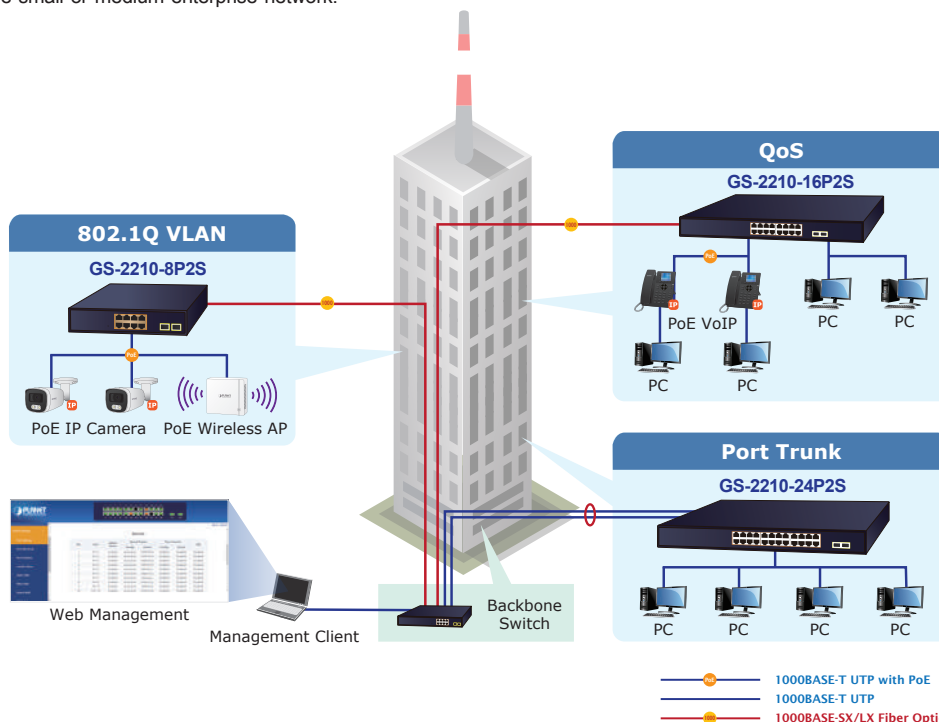
# Specifications

| Product | GS-2210-8T2S | GS-2210-8P2S | GS-2210-16T2S | GS-2210-16P2S | GS-2210-24T2S | GS-2210-24P2S |
|---|---|---|---|---|---|---|
| **Hardware Specifications** | | | | | | |
| 10/100/1000 RJ45 Ports | 8 | 8 | 16 | 16 | 24 | 24 |
| 100/1000BASE-X SFP Ports | 2 | 2 | 2 | 2 | 2 | 2 |
| Flash Memory | 16Mbytes | | | | | |
| Reset Button | < 10 sec: System reboot<br>> 10 sec: Factory default | | | | | |
| ESD Protection | Contact ±6KV , Air ±8KV | | | | | |
| Surge Protection | Differential mode ±2KV , Common mode ±4KV | | | | | |
| Dimensions (W x D x H) | 220 x 150 x 44mm | | 440 x 207 x 44mm | | 440 x 207 x 44mm | |
| Weight | 1033g | 1235g | 2368g | 2343g | 2049g | 2500g |
| Power Consumption | 16.4 watts/ 55.9 BTU | 5 watts /17BTU (System)<br>130 watts/443.3 BTU (System+PoE) | 12.7 watts/ 43.3 BTU | 7.1 watts/24.2BTU (System)<br>283 watts/965BTU (System+PoE) | 16.4 watts/55.9BTU | 9.4watts/ 32BTU (System)<br>297 watts/1012 BTU (System+PoE) |
| Power Requirements | AC 100~240V, 50/60Hz | AC 100~240V, 50/60Hz | AC 100~240V, 50/60Hz | AC 100~240V, 50/60Hz | AC: 100~240V, 50/60Hz | AC 100~240V, 50/60Hz |
| Fan | -- | 1 | -- | 2 | -- | 2 |
| LED | **System:** PWR (Green) | System: PWR (Green) | System: PWR (Green) | System: PWR (Green), PoE Usage 80% (Green) | System: PWR (Green) | System: PWR (Green), PoE Usage 80% (Green) |
| | **Ports:** LNK/ACT (Green) | Ports: LNK/ACT (Green) PoE-in-Use (Amber) | Ports: LNK/ACT (Green) | Ports: LNK/ACT (Green) PoE-in-Use (Amber) | Ports: LNK/ACT (Green) | Ports: LNK/ACT (Green) PoE-in-Use (Amber) |
| **Switching Specifications** | | | | | | |
| Switch Architecture | Store-and-forward | | | | | |
| Switch Fabric | 20Gbps/non-blocking | | 36Gbps/non-blocking | | 52Gbps/non-blocking | |
| Switch Throughput | 14.88Mpps | | 26.78Mpps | | 38.68Mpps | |
| Address Table | 8K MAC address table<br>with auto-learning, auto-aging | | | | | |
| Shared Data Buffer | 4.1MB | | | | | |
| Jumbo Frame | 10KBytes | | | | | |
| Flow Control | Back pressure for half duplex<br>IEEE 802.3x pause frame for full duplex | | | | | |
| **Power over Ethernet Specifications** | | | | | | |
| PoE Standard | -- | IEEE 802.3at PoE+ PSE | -- | IEEE 802.3at PoE+ PSE | -- | IEEE 802.3at PoE+ PSE |
| PoE Power Supply Type | -- | End-span | -- | End-span | -- | End-span |
| PoE Power Output | -- | 32W (max.) | -- | 32W (max.) | -- | 32W (max.) |
| Power Pin Assignment | -- | 1/2(+), 3/6(-) | -- | 1/2(+), 3/6(-) | -- | 1/2(+), 3/6(-) |
| PoE Power Budget | -- | 120 watts (max.) | -- | 240 watts (max.) | -- | 260 watts (max.) |
| **Layer 2 Functions** | | | | | | |
| Port Configuration | EEE Green energy savings disable/enable<br>Port disable/enable/reboot<br>Flow control disable/enable<br>Bandwidth control on each port<br>Port loopback protection | | | | | |
| Port Status | Display each port's speed duplex mode,<br>Display link status<br>Display flow control status<br>Display auto negotiation status<br>Display Green energy saving status | | | | | |
| Port Mirroring | In / Out / All<br>Many-to-1 monitor | | | | | |
| VLAN | 802.1Q tagged VLAN, up to 16 VLAN groups | | | | | |
| Bandwidth Control | TX/RX/Both | | | | | |
| Link Aggregation | static trunk<br>Supports 8 groups with 8 ports per trunk group | | | | | |

| | |
|---|---|
| QoS | 8 priority queues on all switch ports<br>Supports strict priority and Weighted Round Robin (WRR) CoS policies<br>Traffic classification:<br>  - IEEE 802.1p CoS/ToS<br>  - IPv4 DSCP<br>  - Port-based WRR |
| Multicast | IPv4 IGMP v1/v2 snooping<br>Up to 256 |

### Security Functions

| | |
|---|---|
| Security | Port isolation<br>DHCP Snooping |

### Switch Management Functions

| | |
|---|---|
| System Configuration | Telnet, Web browser |
| Management | Authentication for IPv4 Telnet user name and password<br>Telnet<br>Cable diagnostics<br>IP address or domain name Ping Test<br>NTP (Network Time Protocol)<br>PLANET Smart Discovery Utility<br>PLANET NMS<br>PLANET NMSViewerPro |

### Standard Conformance

| | |
|---|---|
| Regulatory Compliance | FCC Part 15 Class A, CE |
| Standards Compliance | IEEE 802.3 10BASE-T<br>IEEE 802.3u 100BASE-TX<br>IEEE 802.3z Gigabit 1000BASE-SX/LX<br>IEEE 802.3ab Gigabit 1000BASE-T<br>IEEE 802.3x flow control and back pressure<br>IEEE 802.1p Class of Service<br>IEEE 802.1Q VLAN tagging<br>IEEE 802.3af Power over Ethernet<br>IEEE 802.3at Power over Ethernet PLUS<br>RFC 791 IP<br>RFC 792 ICMP<br>RFC 2068 HTTP<br>RFC 1112 IGMP v1<br>RFC 2236 IGMP v2 |

### Environment

| | |
|---|---|
| Operating | Temperature: 0 ~ 50 degrees C<br>Relative Humidity: 5 ~ 90% (non-condensing) |
| Storage | Temperature: -10 ~ 70 degrees C<br>Relative Humidity: 5 ~ 90% (non-condensing) |

# Ordering Information

| | |
|---|---|
| GS-2210-8P2S | 8-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Web Smart Ethernet Switch (120W) |
| GS-2210-16P2S | 16-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Web Smart Ethernet Switch (240W) |
| GS-2210-24P2S | 24-Port 10/100/1000T 802.3at PoE + 2-Port 1000X SFP Web Smart Ethernet Switch (260W) |
| GS-2210-8T2S | 8-Port 10/100/1000T + 2-Port 1000X SFP Web Smart Ethernet Switch |
| GS-2210-16T2S | 16-Port 10/100/1000T + 2-Port 1000X SFP Web Smart Ethernet Switch |
| GS-2210-24T2S | 24-Port 10/100/1000T + 2-Port 1000X SFP Web Smart Ethernet Switch |

## Related Products

| | |
|---|---|
| GS-4210-8UP2S | 8-Port 10/100/1000T 802.3bt PoE + 2-Port 100/1000X SFP Managed Ethernet Switch |
| GS-4210-8P2S | 8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch |
| GS-4210-48T4S | 48-Port 10/100/1000BASE-T + 4-Port 100/1000BASE-X SFP Gigabit Managed Switch |
| GS-4210-24HP2C | 4-Port 10/100/1000T 802.3bt PoE + 20-Port 10/100/1000T 802.3at PoE + 2-Port Gigabit TP/SFP Combo Managed Switch |
| GS-4210-24P4C | 24-Port 10/100/1000T 802.3at PoE + 4-Port Gigabit TP/SFP Combo Managed Switch |
| GSD-1002M | 8-Port 10/100/1000Mbps + 2-Port 100/1000X SFP Managed Desktop Switch |

## Available Modules for GS-2210 series

Gigabit Ethernet Transceiver (1000BASE-X SFP)

| | |
|---|---|
| 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 |

MFB-Series Transceiver (100BASE-FX SFP )

| | |
|---|---|
| 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 |