Layer 3 8-Port 2.5GBASE-T + Multiple 10G Uplink Managed Ethernet Switch

Perfect Managed Multigigabit Ethernet Switch with L3/L2 Switching and Security

PLANET MGS-6311-Series is a brand-new **Layer 3 managed multigigabit switch** providing **2.5Gbps** data over UTP cables, designed for the demand of high-bandwidth required network equipment, such as Wi-Fi 6 802.11ax wireless AP, NAS, workstation and those with 2.5GBASE-T interfaces. It features **8 10/100/1000/2500BASE-T** copper ports and 2 extra 1G/10GBASE-X SFP+ fiber ports that are flexibly designed to extend the connection distance.

The MGS-6311 series provides high-density performance, **Layer 3 static routing**, **RIP (Routing Information Protocol)** and **OSPF (Open Shortest Path First)**. With **10Gbps** interfaces, it can handle extremely large amounts of data in a secure topology linking to an enterprise backbone or high-capacity servers. The powerful network security features make the MGS-6311 series perform effective data traffic control for ISP and enterprise VoIP, video streaming, and multicast applications.

The hardware specifications of these models are shown below:

Models	10/100/1000/2500T Copper	100/1G/2.5G/5G/10GT Copper	1000/10G SFP+	PoE Ports	Power Input
MGS-6311-8P2X	8	--	2	8at	AC
MGS-6311-10T2X	8	2	2	--	AC

2.5Gbps Capability for Diversified Bandwidth Applications

With the terminal access rates of 802.11ac/ax wireless APs reaching as high as 1.2Gbps to 3.6Gbps, Gigabit ports have been unable to satisfy the demand. Supporting 2.5Gbps capability and 802.3af/at PoE output, the MGS-6311 series can deliver not only data to 802.11ac/ax wireless APs, but also power with the existing CAT5e Ethernet cables to other powered devices such as APs and IP cameras. It can definitely give you the speed you demand and its Plug and Play makes installation easy

IP Routing Features

- IP routing protocol supports RIPv1/v2, OSPFv2
- Routing interface provides per VLAN routing mode
- Supports route redistribution

Layer 2 Features

- Complies with the IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z, IEEE 802.3bz, IEEE 802.3an 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
- 16K MAC address table, automatic source address learning and aging
- Supports VLAN
  - IEEE 802.1Q tag-based VLAN
  - GVRP for dynamic VLAN management
  - Provider Bridging (VLAN Q-in-Q, IEEE 802.1ad) supported
  - Private VLAN Edge (PVE) supported
  - GVRP protocol for Management VLAN
  - Protocol-based VLAN
  - MAC-based VLAN
  - IP subnet VLAN
- Supports Link Aggregation
  - Maximum 64 trunk groups, up to 8 ports per trunk group
  - IEEE 802.3ad LACP (Link Aggregation Control Protocol)
  - Cisco ether-channel (static trunk)
- Supports Spanning Tree Protocol
  - STP, IEEE 802.1D (Classic Spanning Tree Protocol)
  - RSTP, IEEE 802.1w (Rapid Spanning Tree Protocol)
  - MSTP, IEEE 802.1s (Multiple Spanning Tree Protocol, spanning tree by VLAN)
  - Supports BPDU & root guard
- Port mirroring to monitor the incoming or outgoing traffic on a particular port (many to many)
- Provides port mirror (many-to-1)
- Supports G.8032 ERPS (Ethernet Ring Protection Switching)

Quality of Service

- 8 priority queues on all switch ports

New Generation of Multigigabit Switch
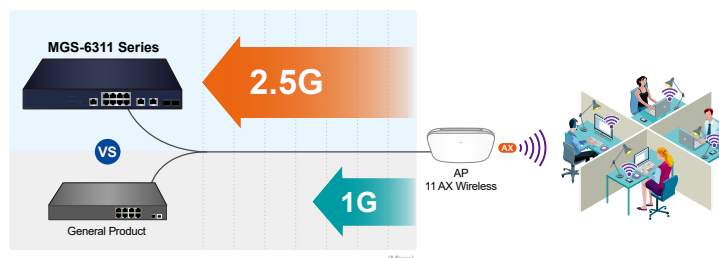
10GBASE-T and 10GBASE-X SFP Dual Media Interfaces for Diversified Bandwidth Applications

PLANET MGS-6311-10T2X has the capability to reach a high speed of 10Gbps over copper or fiber-optic cabling which helps to accelerate the performance of large data transmission. The built-in 10GBASE-T copper interfaces support 5-speed (10G/5G/2.5G/1G/100) auto-negotiation, and 10Gbps data transmission with the existing Cat6A/Cat7 UTP cabling, meaning the speed can be increased without costs. It can definitely give you the speed you demand and its Plug and Play makes installation easy.

- Support for strict priority and WRR (Weighted Round Robin) CoS policies
- Traffic classification
  - IEEE 802.1p CoS/ToS
  - IPv4/IPv6 DSCP
  - Port-based WRR
- Strict priority and WRR CoS policies

Multicast

- Supports IPv4 IGMP snooping v1, v2 and v3
- Supports IPv6 MLD v1 and v2 snooping
- Querier mode support
- Supports Multicast VLAN Register (MVR)

Security

- IEEE 802.1x port-based network access authentication
- MAC-based network access authentication
- Built-in RADIUS client to cooperate with the RADIUS servers for IPv4 and IPv6
- TACACS+ login users access authentication
- IP-based Access Control List (ACL)
- MAC-based Access Control List
- Supports DHCP snooping
- Supports ARP inspection
- **IP Source Guard** prevents IP spoofing attacks
- **Dynamic ARP Inspection** discards ARP packets with invalid MAC address to IP address binding

Management

- Management IP for IPv4 and IPv6
- Switch Management Interface
  - Console/Telnet Command Line Interface
  - Web switch management
  - SNMP v1, v2c, and v3 switch management
  - SSHv2/TLSv1.2 secure access
- BOOTP and DHCP for IP address assignment
- Firmware upload/download via TFTP or HTTP Protocol for IPv4 and IPv6
- SNTP (Simple Network Time Protocol) for IPv4 and IPv6
- User privilege levels control
- Syslog server for IPv4 and IPv6
- Supports DDM

The fiber-optic 10GBASE-X SFP+ interfaces of the MGS-6311 series support dual speeds, 10GBASE-SR/LR and 1000BASE-SX/LX , meaning the administrator now can flexibly choose the suitable SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the network efficiently.

Redundant Ring, Fast Recovery for Critical Network Applications

The MGS-6311 series supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ITU-T **G.8032 ERPS** (Ethernet Ring Protection Switching) technology and Spanning Tree Protocol (802.1s MSTP) into customer's network to enhance system reliability and uptime in harsh environments. In a certain simple Ring network, the recovery time could be less than 15ms to quickly bring the network back to normal operation.

ERPS Ring for Metropolitan Area Network Application
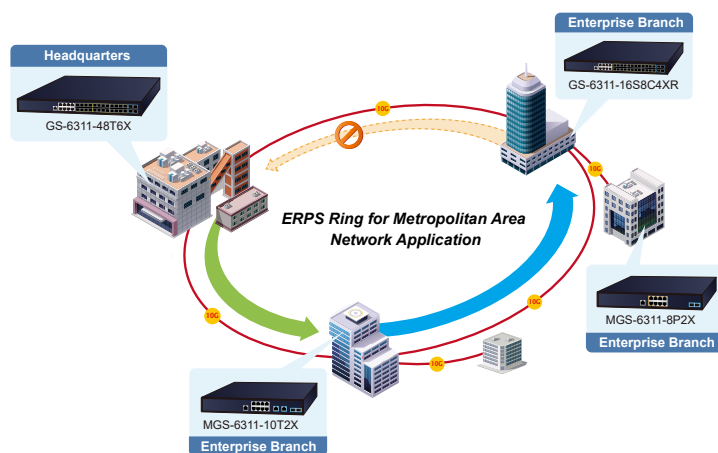
Layer 3 Routing Support

The MGS-6311 series enables the administrator to conveniently boost network efficiency by configuring Layer 3 static routing manually, the **RIP** (Routing Information Protocol) or **OSPF** (Open Shortest Path First) settings automatically.

- The RIP can employ the hop count as a routing metric and prevent routing loops by implementing a limit on the number of hops allowed in a path from the source to a destination.
- The OSPF is an interior dynamic routing protocol for autonomous system based on link state. The protocol creates a database for link state by exchanging link states among Layer 3 switches, and then uses the Shortest Path First algorithm to generate a route table based on that database.

Strong Multicast

The MGS-6311 series supports abundant multicast features. In Layer 2, it features IPv4 IGMPv1/v2/v3 snooping and IPv6 MLD v1/v2 snooping. With Multicast VLAN Register (MVR), multicast receiver/sender control and illegal multicast source detect functions which make the MGS-6311 series great for any robust networking.

- Four RMON groups 1, 2, 3, 9 (history, statistics, alarms and events)
- Supports sFlow
- Supports ULDP
- Supports ULPP (Uplink Protection Protocol)
- Supports ULSM (Uplink State Monitor protocol)
- Supports LLDP/LLDP MED
- Supports DHCP Option82/43/60/61/67
- Supports ping, trace route function for IPv4 and IPv6
- PLANET Smart Discovery Utility for deployment management

Power over Ethernet (MGS-6311-8P2X)

- Complies with IEEE 802.3at/af Power over Ethernet Plus
- Up to 8 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE power up to 32 watts for each PoE port
- Supports maximum 150-watt PoE budget
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters
- 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
  - PoE schedule