8-Port 10/100/1000Mbps + 2-Port 100/1000X SFP Managed Desktop Switch

PLANET GSD-1002M is an 8-port 10/100/1000Mbps + 2-port 100/1000X SFP Managed Desktop Switch specially designed to build a reliable full Gigabit backbone to transmit and forward data to remote network through fiber optic. It provides 8-port 10/100/1000Base-T copper and 2 extra 100/1000Base-X SFP fiber optic interfaces with dual power system. Besides support for 20Gbps switch fabric to handle extremely large amounts of video, voice and important data in a secure topology, the GSD-1002M provides user-friendly but advanced IPv6 / IPv4 management interface and abundant L2 / L4 switching functions. It is the best investment for businesses/SOHOs expanding or upgrading their network infrastructure.

IPv6 / IPv4 Full-functioned Secure Switch

The GSD-1002M is the ideal solution to fulfilling the demand of IPv6 management Gigabit Ethernet Switch. It supports both IPv4 and IPv6 management functions and can work with original network structure. It provides advanced Layer 2 to Layer 4 data switching and Quality of Service traffic control, Access Control List, network access control and authentication, and Secure Management features to protect building automation network connectivity with reliable switching recovery capability that is suitable for implementing fault tolerant and mesh network architectures.

Spanning Tree Protocol and Dual Power Input for High Available Network System

The GSD-1002M features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates Spanning Tree Protocol (802.1s MSTP), auto loop protection and dual power input system (PoE In + 12V DC) into customer's automation network to enhance system reliability and uptime. In the example below, PoE power has failed with dropped cable and DC power will run hardware failover function automatically to keep powering the switch without any loss.

Physical Ports

- 8 10/100/1000Mbps Gigabit Ethernet ports with auto-MDI/MDI-X supported
- 1 port (Port 8) supports 802.3af/at PoE 48~56V DC in-line power
- 2 100/1000Base-X mini-GBIC/SFP slots

Installation

- Dual Power Design
  - 802.3af/at PoE In
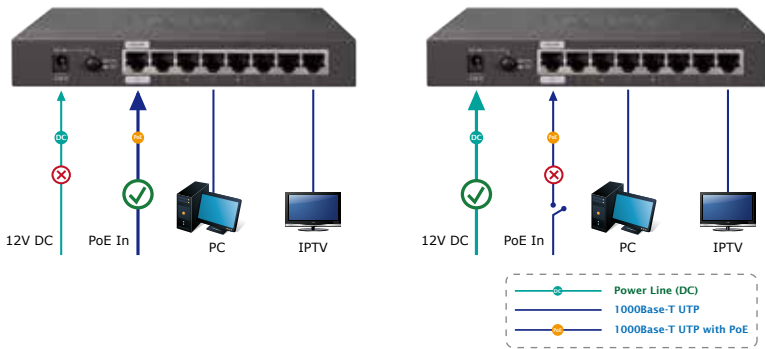 - 12V DC power adapter acceptable

Layer 2 Features

- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High performance Store and Forward architecture, broadcast storm control, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Supports VLAN
  - IEEE 802.1Q tagged VLAN
  - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
  - Protocol VLAN
  - Voice VLAN
  - Private VLAN
  - 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
- Provides Port Mirror (many-to-1)
- Loop protection to avoid broadcast loops

Quality of Service

- Ingress / 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
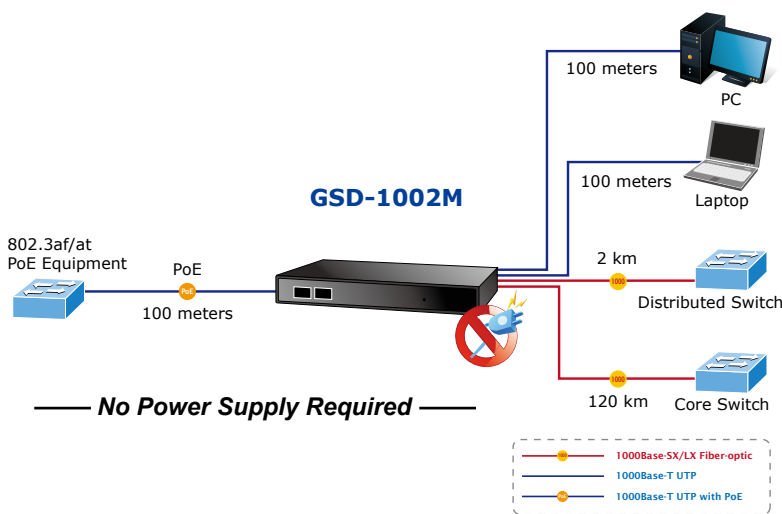
Power Dual-Input (Auto Failover)

12V DC   PoE In   PC   IPTV   12V DC   PoE In   PC   IPTV

Power Line (DC)
1000Base-T UTP
1000Base-T UTP with PoE

Handheld Size for FTTD Solution

The GSD-1002M provides high-performance edge service and plug-and-play design for FTTD (Fiber to the Desktop) solutions. FTTD service is fiber optic cabling with reliable and expandable, lower-cost wiring architectures, and long distance capability. The GSD-1002M supports dual-speed, 100Base-FX and 1000Base-SX/LX SFP (Small Form-factor Pluggable) fiber-optic modules to connect fiber access point, with high flexibility to be installed in communication closet or major computer room for SMBs.

Applications

Extending Network Infrastructure for SOHOs, SMBs and Workgroups

Since port 8 of the GSD-1002M provides PoE PD power in-line and 12V DC in interface, it can obtain PoE power from any 802.3af/at PoE PSE equipment. The GSD-1002M is with non-blocking design and handheld size, and extends 8-port 10/100/1000Mbps Gigabit Ethernet and 2-port extra 100Base-FX / 1000Base-SX/LX SFP fiber-optic modules, bringing network infrastructure higher flexibility but lower in cost.

GSD-1002M

802.3af/at PoE Equipment   PoE   100 meters

100 meters   PC
100 meters   Laptop
2 km   Distributed Switch
120 km   Core Switch

—— **No Power Supply Required** ——

1000Base-SX/LX Fiber-optic
1000Base-T UTP
1000Base-T UTP with PoE

- Strict priority and Weighted Round Robin (WRR) CoS policies

Multicast

- Supports IGMP Snooping v2 and v3
- Supports MLD Snooping v1 and v2
- IGMP Querier mode support
- IGMP Snooping port filtering
- MLD Snooping port filtering

Security

- Authentication
  - IEEE 802.1X Port-based network access authentication
  - Built-in RADIUS client to co-operate with the RADIUS servers
  - RADIUS / TACACS+ login user access authentication
- Access Control List
  - IPv4 / IPv6 IP-based ACL
  - MAC-based ACL
- 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
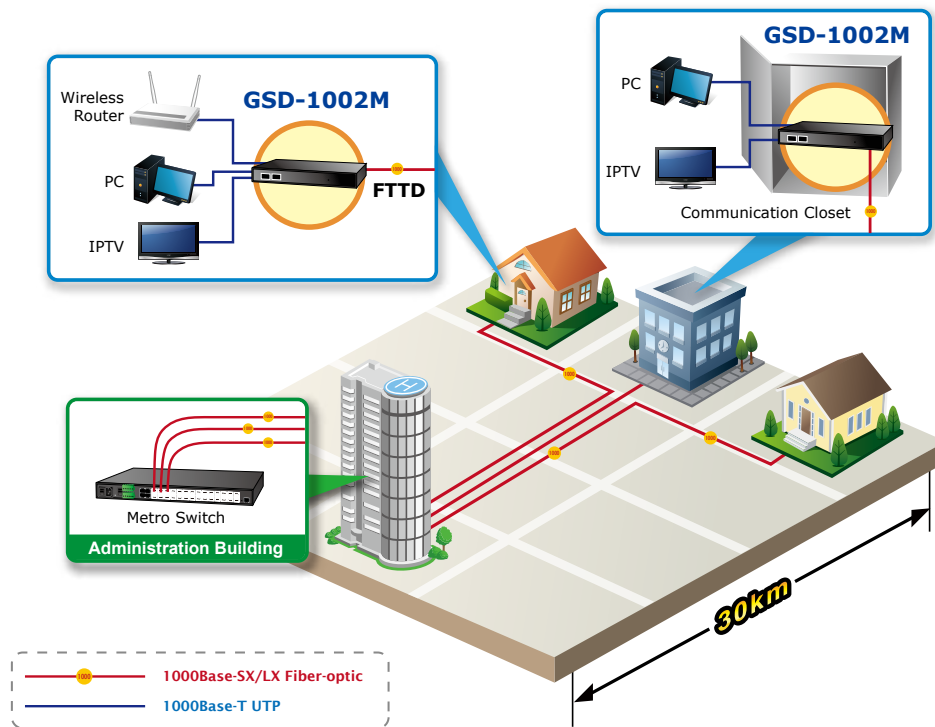- DoS Attack Prevention
- SSH / SSL

Management

- IPv4 and IPv6 dual stack management
- Switch Management Interface
  - Web switch management
  - Telnet Command Line Interface
  - SNMP v1, v2c and v3
  - SSH / SSL secure access
- User Privilege Levels Control
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- System Maintenance
  - Firmware upload/download via HTTP / TFTP
  - Configuration upload / download through Web interface
  - Dual Images
  - Hardware reset button for system reboot or reset to factory default
- SNTP Network Time Protocol
- Cable Diagnostics
- Link Layer Discovery Protocol (LLDP) Protocol and LLDP-MED
- SNMP trap for interface Link Up and Link Down notification
- Event message logging to remote Syslog server
- Four RMON groups (history, statistics, alarms, and events)
- PLANET Smart Discovery Utility

Plug-and-Play for FTTD Solution

The GSD-1002M supports free configuration and free grounding, and provides high-performance edge service. To build the network infrastructure with an easily and quickly installed option, it can decrease attenuation and crosstalk issues for zero-loss data transfer.

Fiber To The Desktop (FTTD) Solution

Product Specifications

Product	GSD-1002M
Hardware Specifications	
Copper Ports	8 x 10/100/1000Base-T RJ45 Auto-MDI/MDI-X port
SFP/mini-GBIC Slots	2 100/1000Base-X SFP interfaces Supports 100/1000Mbps dual mode and DDM
Switch Architecture	Store-and-Forward
Switch Fabric	20Gbps / non-blocking
Switch Throughput@64Bytes	14.8Mpps@64Bytes
Address Table	8K entries
Share Data Buffer	4.1 megabits
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Jumbo Frame	10K bytes
Reset Button	< 5 sec: System reboot > 5 sec: Factory Default
LED	System: Power (Green) 10/100/1000T RJ45 Interfaces (Port 1 to Port 8): 1000Mbps (Orange), LNK/ACT (Green) 100/1000Mbps SFP Interfaces (Port 9 to Port 10): 1000Mbps (Orange), LNK/ACT (Green)
Thermal Fan	Fan-less design
Power Requirements	▪ IEEE 802.3af / at PoE 48V ~ 56V DC in-line power ▪ 12V DC power adapter
ESD Protection	6KV DC
Power Consumption / Dissipation	10.9 watts / 37.2 BTU
Dimensions (W x D x H)	191 x 86 x 26 mm
Weight	396g
Enclosure	Metal
Layer 2 Functions	
Port Mirroring	TX / RX / Both Many-to-1 monitor
VLAN	802.1Q Tagged-based VLAN Up to 256 VLAN groups, out of 4094 VLAN IDs 802.1ad Q-in-Q tunneling Voice VLAN Protocol VLAN Private VLAN (Protected port) GVRP
Link Aggregation	IEEE 802.3ad LACP and static trunk Supports 8 groups of 8-port trunk
Spanning Tree Protocol	STP / RSTP / MSTP
IGMP Snooping	IGMP (v2 / v3) Snooping IGMP Querier Up to 256 multicast groups
MLD Snooping	MLD (v1 / v2) Snooping, up to 256 multicast groups
Access Control List	IPv4/IPv6 IP-based ACL / MAC-based ACL
QoS	8 mapping ID to 8 level priority queues - Port Number - 802.1p priority - 802.1Q VLAN tag - DSCP field in IP Packet Traffic classification based, Strict priority and WRR
Security	IEEE 802.1x – Port-based authentication Built-in RADIUS client to co-operate with RADIUS server RADIUS / TACACS+ user access authentication IP-MAC port binding MAC Filter Static MAC Address DHCP Snooping and DHCP Option 82 STP BPDU Guard, BPDU Filtering and BPDU Forwarding DoS Attack Prevention ARP Inspection IP Source Guard

Management Functions

Basic Management Interfaces	Web browser / Telnet / SNMP v1, v2c Firmware upgrade by HTTP / TFTP protocol through Ethernet network Remote / Local Syslog System log LLDP protocol SNTP
Secure Management Interfaces	SSH, SSL, SNMP v3
SNMP MIBs	RFC 3635 Ethernet-like MIB RFC 2863 Interface Group MIB RFC 2819 RMON (1, 2, 3, 9) RFC 1493 Bridge MIB

Standards Conformance

Regulation Compliance	FCC Part 15 Class B, 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 1000T 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 802.1x Port Authentication Network Control IEEE 802.1ab LLDP IEEE 802.3af (Power over Ethernet) IEEE 802.3at (High Power over Ethernet) RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP version 1 RFC 2236 IGMP version 2 RFC 3376 IGMP version 3 RFC 2710 MLD version 1 RFC 3810 MLD version 2

Environment

Operating	Temperature:	0 ~ 50 degrees C
	Relative Humidity:	5 ~ 95% (non-condensing)
Storage	Temperature:	-20 ~ 70 degrees C
	Relative Humidity:	5 ~ 95% (non-condensing)

Ordering Information

GSD-1002M	8-Port 10/100/1000Mbps + 2-Port 100/1000X SFP Managed Desktop Switch

Related Products

MGSW-28240F	24-Port 100/1000Base-X SFP with 4-Port 10G SFP+ L2/L4 Managed Metro Ethernet Switch
XGS3-24242	24-Port 100/1000X SFP Stackable Layer 3 Managed Switch with 4 Optional 10G Slots
WGSW-24040HP	24-Port 10/100/1000Mbps 802.3at PoE+ with 4-Port Shared SFP Managed Switch
POE-E201	IEEE 802.3at Power over Gigabit Ethernet Extender

Available Gigabit Modules for GSD-1002M

MGB-GT	SFP-Port 1000Base-T Module
MGB-SX	SFP-Port 1000Base-SX mini-GBIC module
MGB-LX	SFP-Port 1000Base-LX mini-GBIC module
MGB-L30	SFP-Port 1000Base-LX mini-GBIC module - 30km
MGB-L50	SFP-Port 1000Base-LX mini-GBIC module - 50km
MGB-L70	SFP-Port 1000Base-LX mini-GBIC module - 70km
MGB-L120	SFP-Port 1000Base-LX mini-GBIC module - 120km
MGB-LA10	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module - 10km
MGB-LB10	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module - 10km
MGB-LA20	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module - 20km
MGB-LB20	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module - 20km
MGB-LA40	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module - 40km
MGB-LB40	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module - 40km
MGB-TSX	SFP-Port 1000Base-SX mini-GBIC module - 550m (-40~75 degrees C)
MGB-TLX	SFP-Port 1000Base-LX mini-GBIC module - 10km (-40~75 degrees C)
MGB-TL30	SFP-Port 1000Base-LX mini-GBIC module - 30km (-40~75 degrees C)
MGB-TL70	SFP-Port 1000Base-LX mini-GBIC module - 70km (-40~75 degrees C)

Available 100Mbps Modules for GSD-1002M

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

C-GSD-1002M