# 24-Port 10/100TX + 4-Port Gigabit Managed Switch with 2 Combo 100/1000X SFP Ports

Full-Functioned Layer 2 / Layer 4 Managed Switch for Enterprise and Campus Networking

PLANET FGSW-2840 is a 24-port 10/100Mbps Fast Ethernet Switch with 4 Gigabit ports and 2 combo 100/1000X SFP interfaces. It comes with a high-performance switch architecture, capable of providing non-blocking 12.8Gbps switch fabric and wire-speed throughput at 9.5Mpps. Its four built-in GbE uplink ports also offer incredible extensibility, flexibility and connectivity to the core switch or servers. The powerful features of QoS and network security offered by the FGSW-2840 enable the switch to perform effective data traffic control for ISP and enterprise VoIP, video streaming and multicast applications. It is ideal for the remote access layer of campus or enterprise networks and the aggregation layer of IP metropolitan networks.
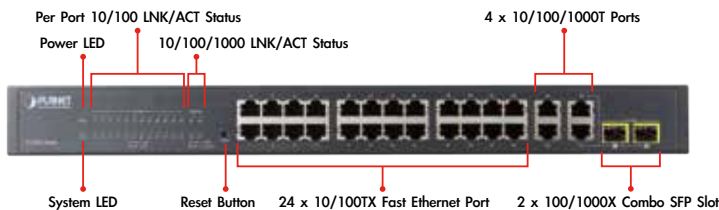
Robust Layer 2 Feature

The FGSW-2840 can be programmed for advanced switch management functions such as port mirror, port security, port isolation and loopback detection. It also features the dynamic **port link aggregation** (Static Trunk and LACP), **802.1Q VLAN**, **Spanning Tree protocol** (STP), **Rapid Spanning Tree protocol** (RSTP) and **Multiple Spanning Tree protocol** (MSTP), static/dynamic MAC address filtering, **IGMP snooping**, multicast IP, multicast filtering and DHCP filtering. Via aggregation of supporting ports, the FGSW-2840 allows the operation of a high-speed trunk to combine with multiple ports. It enables a maximum of up to 6 groups of 4 ports for trunk and supports fail-over as well.

Enhanced Security

The FGSW-2840 offers comprehensive **Layer 2 to Layer 4 Access Control List (ACL)** for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address.

Efficient Traffic Control

The FGSW-2840 is loaded with robust QoS features and powerful traffic management to enhance services to business-class data, voice, and video solutions. The functionality includes broadcast / multicast / unicast **storm control**, per port **bandwidth** control, 802.1p / CoS / IP DSCP QoS priority and remarking. It guarantees the best performance at VoIP and video stream transmission, and empowers the enterprises to take full advantages of the limited network resources.

Physical Port

- **24-port 10/100Base-TX** Fast Ethernet RJ-45 copper, auto MDI / MDIX
- **4-port 10/100/1000Base-T** Gigabit Ethernet RJ-45 copper, auto MDI / MDIX
- **2 Combo 100/1000Base-X** mini-GBIC/SFP slots (Share with Port 27/28)
- Reset button for system factory default

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, and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Supports **VLAN**
  - IEEE 802.1Q tagged VLAN, up to 512VLAN groups, out of 4094 VLAN IDs
  - Management VLAN
- Supports **Spanning Tree Protocol**
  - STP (Spanning Tree Protocol)
  - RSTP (Rapid Spanning Tree Protocol)
  - MSTP (Multiple Spanning Tree Protocol)
  - Loop Guard, Root Guard, TC, BPDU Guard, STP BPDU Guard, BPDU Filtering
- Supports **Link Aggregation**
  - IEEE 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (Static Trunk)
  - Maximum 6 trunk groups, up to 4 ports per trunk group
- Provides port mirror (many-to-1)

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
  - DSCP / ToS priority
- Strict priority, Weighted Round Robin (WRR) and Equal CoS policies
- Voice VLAN

Enhanced and Secure Management

For efficient management, the FGSW-2840 is equipped with Web, Telnet and SNMP management interfaces. With the built-in Web-based management interface, the FGSW-2840 offers an easy-to-use, platform-independent management and configuration facility. By supporting the standard Simple Network Management Protocol (SNMP), the switch can be managed via any standard management software. For text-based management, the switch can be accessed via Telnet. Moreover, the FGSW-2840 offers secure remote management by supporting HTTPS and SNMPv3 connections which encrypt the packet content at each session.

Flexible Extension Solution

The two mini-GBIC slots built in the FGSW-2840 are compatible with the 100Base-FX / 1000Base-SX / LX SFP (Small Form-factor Pluggable) fiber transceiver to uplink to the backbone switch and monitoring center in long distance. The distance can be extended from 550 meters and 2 kilometers (multi-mode fiber) to 10/20/30/40/50/60/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

Applications

Extension Department / Workgroup Switch

With 24 10/100Mbps ports and 4 10/100/1000Base-T ports, the FGSW-2840 connects up to 28 workstations in Ethernet environment. The two SFP Mini-GBIC interfaces can be uplinked to a department backbone; moreover, the FGSW-2840 provides a 12.8 Gigabit per second switch fabric and is able to provide high bandwidth for backbone connection.
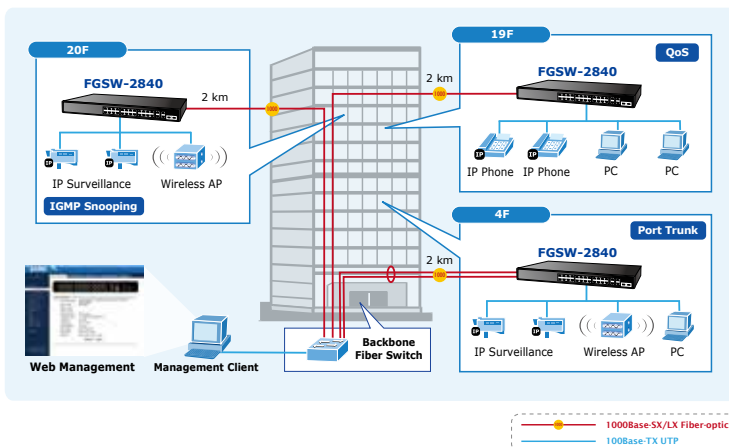
Multicast

- IGMP Snooping v1, v2 and v3
- Multicast IP Table / Static Multicast IP
- Multicast Filter

Security

- L2 / L3 / L4 Access Control List
- MAC Security
  - Static MAC
  - MAC Filtering
- Port Security for Source MAC address entries filtering
- Port Isolation, loopback detection
- DHCP Filtering

Management

- Switch Management Interface
  - Web switch management
  - Telnet command line interface
  - SNMP v1, v2c and v3
  - SSL v2, v3 / SSH v1,v2 secure access
  - IP / MAC / Port-based Web access control
- Static, DHCP and BooTP for IP address assignment
- System Maintenance
  - Firmware upgrade via HTTP
  - Configuration upload / download through HTTP
  - Hardware reset button for system reset to factory default
  - System CPU / Memory status monitor
- System Time Setting
  - Manual setting
  - Network time protocol
  - PC clock synchronization
- Daylight saving time setting
- SNMP trap for interface linkup and linkdown notification
- System local log / remote log / backup log
- Four RMON groups (history, statistics, alarms and events)
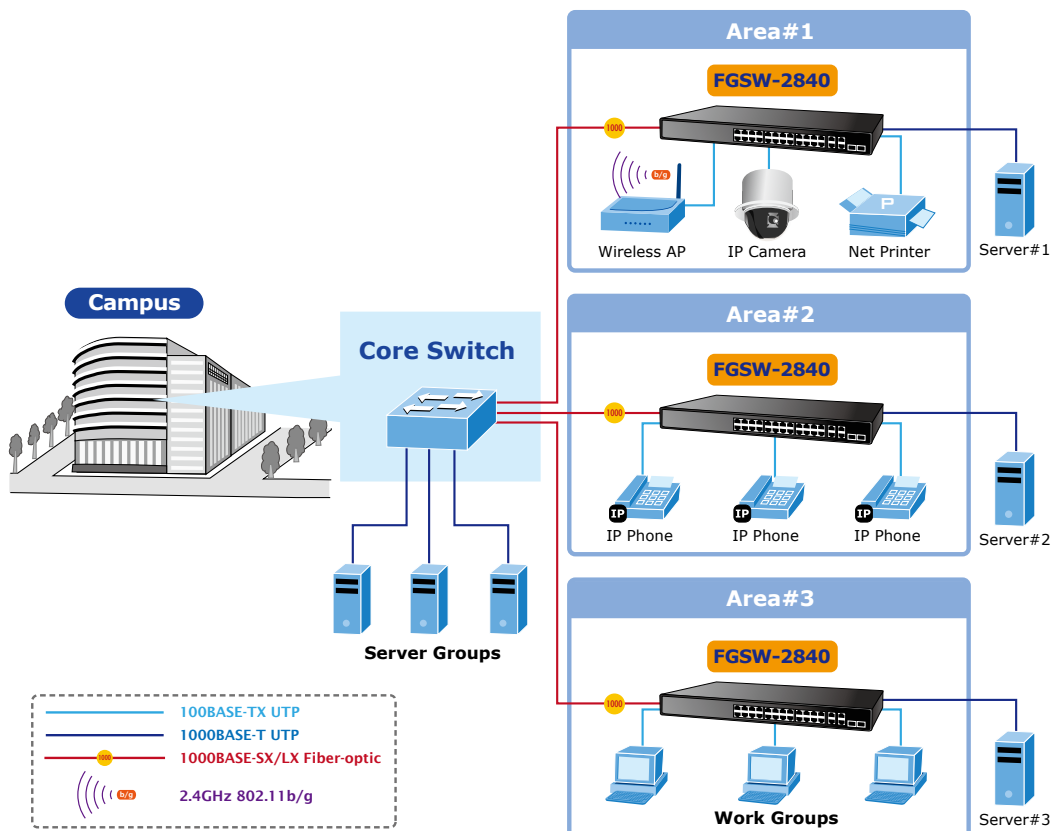- Virtual cable test / loop back test

Enterprise Security and QoS Edge Switch

Its MAC/IP/Protocol Access Control list and Port Security features limit the number of MAC addresses to be passed through one specific port. The IGMP snooping and QoS functions included in the FGSW-2840 further improve the efficiency of the network and protect the network clients.
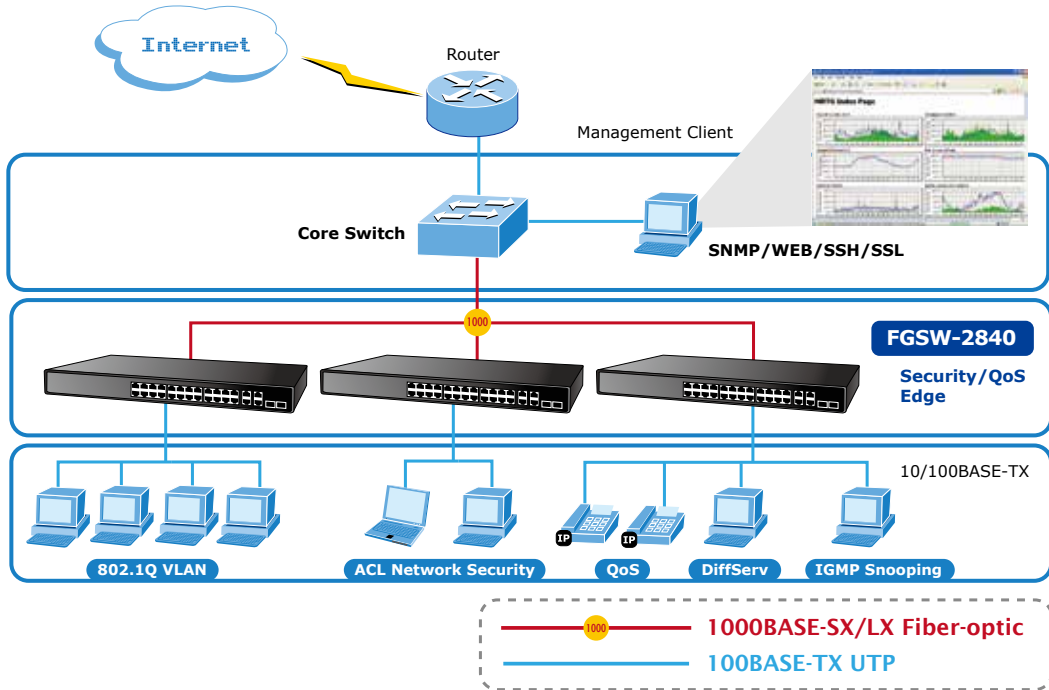
MTU Switch

In an MTU/MDU application, the advanced functionality of the FGSW-2840 eliminates the traditional issues associated with the use of Ethernet. Users can be segregated by advanced VLAN functionality to enhance security and bandwidth managed with tiered bandwidth provision and control through configurable upstream/downstream restrictions. These coupled with the flexible mini-GBIC 100Base-FX / 1000Base-SX/LX module options make the FGSW-2840 one of the best and most cost-effective switch solutions for multi-tenant service providers.

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Specifications

Product	FGSW-2840
Hardware Specifications	
10/100TX Copper Ports (MDI/MDIX)	24
10/100/1000T Copper Ports (MDI/MDIX)	4
SFP/mini-GBIC Slots	2 100/1000Base-X SFP interfaces
Switch Fabric	12.8Gbps / non-blocking
Switch Throughput@64 bytes	9.5Mpps @64 bytes
LED	**System:** Power (Green) SYS (Green) **10/100TX RJ-45 Interfaces** (Port 1 to Port 24): 100 LNK / ACT (Green) 10 LNK/ACT (Orange) **10/100/1000T RJ-45 Interfaces** (Port 25 to Port 28): 1000 LNK / ACT (Green) 10/100 LNK/ACT (Orange) **100/1000Mbps SFP Interfaces (Share with Port 27 and Port 28):** 1000 LNK / ACT (Green) 100 LNK/ACT (Orange)
Power Requirements	100~240V AC, 50/60Hz, 0.6A
Power Consumption / Dissipation	Max. 12.8 watts / 43 BTU
Dimensions (W x D x H)	440 x 180 x 44 mm (1U height)
Weight	1.9kg
Switch Architecture	Store-and-Forward
MAC Address Table	8K entries
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Maximum Transmit Unit	9216bytes
Reset Button	> 5 sec: Factory default
Enclosure	Metal
Layer 2 Functions	
Port Mirroring	TX / RX Many-to-1 monitor
Port Security	up to 64 MAC address per port
Link Aggregation	IEEE 802.3ad LACP and static trunk supports 6 groups of 4-port trunk.
VLAN	802.1Q tagged-based VLAN, up to 512 VLAN groups, out of 4094 VLAN IDs Management VLAN
Spanning Tree Protocol	IEEE 802.1D STP IEEE 802.1w RSTP IEEE 802.1s MSTP
Multicast	IGMP (v1/v2/v3) snooping Multicast IP Multicast filter
Access Control List	L2 / L3 / L4 Access Control List
QoS	4 Priority Queues Traffic classification: - IEEE 802.1p CoS - DSCP / ToS priority Strict priority, Weighted Round Robin (WRR) and Equal CoS policies Ingress / Egress Rate Limit per port bandwidth control Storm Control support: - Broadcast / Unknown Unicast / Unknown Multicast Voice VLAN
Security	MAC Security: - Static MAC - Dynamic MAC address - MAC filtering Loop Guard, Root Guard, TC, BPDU Guard, STP BPDU Guard, BPDU DHCP filtering Port isolation Loopback detection

Management Functions	
Basic Management Interfaces	Web browser / Telnet / SNMP v1, v2c, v3 / SSL v2, v3 / SSH v1,v2 Firmware upgrade by HTTP protocol through Ethernet network Configuration Backup / Restore by HTTP protocol through Ethernet network
Secure Management Interfaces	HTTPs, SNMP v3
Web Access Control	IP / MAC / Port-based Web access control
System IP Address Assignment	Static, DHCP and BooTP
System Log	System local log / remote log / backup log
System Time Setting	Manual setting, network time protocol, PC clock synchronization Supports daylight saving time
SNMP RMON	RFC 2819 RMON (1, 2, 3, 9)
SNMP Trap	Interface linkup and link down notification
Maintenance	Virtual cable test Loopback test

Standards Conformance	
Regulation 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 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 RFC 768 UDP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP version 1 RFC 2236 IGMP version 2 RFC 3376 IGMP version 3

Environment	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

Ordering Information

FGSW-2840	24-Port 10/100TX + 4-Port Gigabit Managed Switch with 2 Combo 100/1000X SFP Ports

Available Gigabit SFP Modules for FGSW-2840

MGB-GT	SFP-Port 1000Base-T module
MGB-SX	SFP-Port 1000Base-SX mini-GBIC module - 220/550m
MGB-LX	SFP-Port 1000Base-LX mini-GBIC module - 10km
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

Available Fast Ethernet SFP Modules for FGSW-2840

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

FGSW-2840