

16-Port 10/100/1000 Layer 2 Plus Managed Switch with 1G/10G SFP Slots

SG162147M



Product Features

- (12) 100/1000 Base SFP Slots
- (2) 1G/10G SFP+ Slots
- (2) 10/100/1000 Base Copper Ports
- Supports DHCP Server, Snooping & Relay
- Supports jumbo frames up to 10K
- Port Mirroring for network monitoring
- Provides port bandwidth control function
- Supports IPv6
- Supports STP, RSTP and MSTP protocols
- Supports Multicast VLAN registration for IPTV
- Supports IP-MAC-Port binding for LAN security
- Supports Port-Based and 802.1Q Tag-based VLAN
- Supports 802.1x Access Control for improved security
- Supports AC and DC Power for Redundant Power



Technical Specifications

General	
Network Ports:	<ul style="list-style-type: none"> • (12) 100/1000 Base SFP Slots • (2) 1G/10G SFP+ Slots • (2) 10/100/1000 Base Copper Ports • Shielded RJ-45, Auto-Negotiate, Auto-MDI/MDI-X Support • Back-pressure flow control for half-duplex • 802.3x flow control for full-duplex
Network Cables:	<ul style="list-style-type: none"> • 10/100/1000Mbps: Cat.5 up to 100m • 1Gbps: Cat.5e or higher up to 100m • 10Gbps: Cat.6 or higher up to 100m • Multi-mode or Single-Mode fiber with LC Connectors
Switching Capacity:	<ul style="list-style-type: none"> • 68Gbps switch capacity • 50.60Mpps throughput • Supports jumbo frames up to 10K



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Layer 2 Switching	
Spanning Tree:	<ul style="list-style-type: none"> • Standard Spanning Tree (STP) 802.1d • Rapid Spanning Tree (RSTP) 802.1w • Multiple Spanning Tree (MSTP) 802.1s
Trunking:	<ul style="list-style-type: none"> • Link Aggregation Control Protocol (LACP) IEEE 802.3ad • Up to 8 Groups • Up to 8 Ports Per Group
VLAN:	<ul style="list-style-type: none"> • Port-Based VLAN • 802.1Q Tag-Based VLAN, up to 4K active VLANs • MAC-Based VLAN • Management VLAN • Private VLAN Edge (PVE) • Q-in-Q (Double Tag) VLAN
Voice VLAN:	Voice traffic is automatically assigned to a Voice-Specific VLAN
Generic VLAN Registration (GVRP):	Protocols for automatically propagating and configuring VLANS in a bridged domain.
DHCP Relay (Option 82):	Designed to allow a DHCP Relay Agent to insert circuit specific information into requests sent to a DHCP server. Two sub-options: Circuit & Remote ID
IGMP:	<ul style="list-style-type: none"> • Snooping v1/v2/v3, supports 1024 multicast groups • Querier • Proxy MLD v1/v2 snooping
Security	
Secure Shell (SSH):	Support SSH v1 & v2 securing Telnet traffic in and out of the switch
Secure Sockets Layer (SSL):	Encrypts HTTP Traffic
Port Security:	Locks MAC addresses to ports and limits learned MAC addresses
IP Source Guard:	Prevents datagram with spoofed addresses from being in the network
IEEE 802.1X:	<ul style="list-style-type: none"> • RADIUS authentication, authorization, and accounting • MD5 hash • Guest VLAN • IGMP-RADIUS based 802.1X • Dynamic VLAN assignment
RADIUS/TACACS+:	Supports RADIUS and TACACS+ authentication
Storm Control:	Prevents LAN traffic from being disrupted by broadcast, multicast, or unicast storm
ACLs:	<ul style="list-style-type: none"> • Supports up to 512 entries • Manage Drop or Rate Limitation

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Quality of Service	
Hardware Priority Queue:	Supports 8 hardware queues
Scheduling:	<ul style="list-style-type: none"> • Strict priority and weighted round-robin (WRR) • Queue assignment base on DSCP and class of service (802.1p/CoS)
Classification:	Port-based, 802.1p VLAN priority based, IPv4/IPv6 precedence/type of service (ToS)/DSCP based, DiffServ, classification and re-marking ACLs, trusted QoS
Rate Limiting:	Ingress policy, Egress sharing and rate control, per VLAN/Port/Flow Based
Management	
Web GUI Interface:	Built-in switch utility supports configuration, maintenance, and monitoring
Dual Image:	Provides independent primary and secondary OS files for upgrading backup
SNMP:	<ul style="list-style-type: none"> • SNMP v1/v2c/v3 with support for traps • SNMP v3 user-based security model (USM)
Remote Monitoring (RMON):	Embedded RMON software supports groups 1, 2, 3, 9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
Port Mirroring:	<ul style="list-style-type: none"> • For analysis with a network analyzer or RMON probe • One session is supported
Management Support:	Single IP, HTTP/HTTPS, SSH, RADIUS, DHCP Client/DHCPv6 Client, SNMP, Cable Diagnostics, Ping, Syslog, Telnet
Layer 3 Switching	
DHCP Server:	Supports DHCP Server to assign IP addresses to DHCP Clients
IPv4/IPv6 Static Routing:	Supports IPv4 and IPv6 Unicast: Static Routing
Mechanical	
Dimensions:	<ul style="list-style-type: none"> • 11 x 5.28 x 1.73 inches (WxDxH) • Weight: 2.2 Pounds
Power:	<ul style="list-style-type: none"> • AC: 100-240VAC, 50-60Hz • DC: 24/48VDC
Temperature:	<ul style="list-style-type: none"> • Operating: -20°C to 60°C • Storage: -40°C to 85°C • Humidity: 10% to 90% relative, non-condensing
Certifications:	<ul style="list-style-type: none"> • CE Mark • FCC Part 15, Class A

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Available SFP Modules

Model	Speed (Mbps)	Wavelength	Media	Distance	Connector	TX Power	RX Sens	Temp
FEMM	100	850nm	MMF	62.5µ: 220m 50µ: 550m	LC	-10 ~ -4	< -24	0 to 70° C
FE2MM	100	1310nm	MMF	2km	LC	-20 ~ -4	< -31	0 to 70° C
FE10SM	100	1310nm	SMF	10km	LC	-15 ~ -8	< -34	0 to 70° C
GBMM	1000	850nm	MMF	62.5µ: 220m 50µ: 550m	LC	-9.5 ~ -4	< -18	0 to 70° C
GB2MM	1000	1310nm	MMF	2km	LC	-9 ~ -1	< -19	0 to 70° C
GB10SM	1000	1310nm	MMF / SMF	MM 62.5µ: 220m MM 50µ: 550m SM 9µ: 10km	LC	-9.5 ~ -3	< -20	0 to 70° C
GB20SM	1000	1310nm	SMF	20km	LC	-4 ~ +1	< -24	0 to 70° C
GB40SM	1000	1550nm	SMF	40km	LC	-4 ~ +1	< -24	0 to 70° C
GB70SM	1000	1550nm	SMF	70km	LC	0 ~ +5	< -24	0 to 70° C
GB100SM	1000	1550nm	SMF	100km	LC	0 ~ +5	< -30	0 to 70° C
GB10SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	10km	LC	-3 ~ -9	< -21	0 to 70° C
GB10SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	10km	LC	-3 ~ -9	< -21	0 to 70° C
GB20SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	20km	LC	-3 ~ -8	< -23	0 to 70° C
GB20SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	20km	LC	-3 ~ -8	< -23	0 to 70° C
GB40SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	40km	LC	-3 ~ +2	< -23	0 to 70° C
GB40SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	40km	LC	-3 ~ +2	< -23	0 to 70° C
GB60SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	60km	LC	0 ~ +5	< -24	0 to 70° C
GB60SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	60km	LC	-2 ~ +4	< -25	0 to 70° C
GB80SFA	1000	Tx: 1310nm Rx: 1550nm	SMF	80km	LC	-2 ~ +3	< -26	0 to 70° C
GB80SFB	1000	Tx: 1550nm Rx: 1310nm	SMF	80km	LC	-2 ~ +3	< -26	0 to 70° C
10GBMM	10G	850nm	MMF	62.5µ: 30m 50µ: 80m OM3: 300m	LC	-7 ~ -1	< -10	0 to 70° C
10GB10SM	10G	1310nm	SMF	10km	LC	-6 ~ +1	< -14	0 to 70° C
10GB40SM	10G	1550nm	SMF	40km	LC	-1 ~ +2	< -16	0 to 70° C
10GB80SM	10G	1550nm	SMF	80km	LC	0 ~ +4	< -23	0 to 70° C

CWDM and DWDM modules are also available. Call for details.