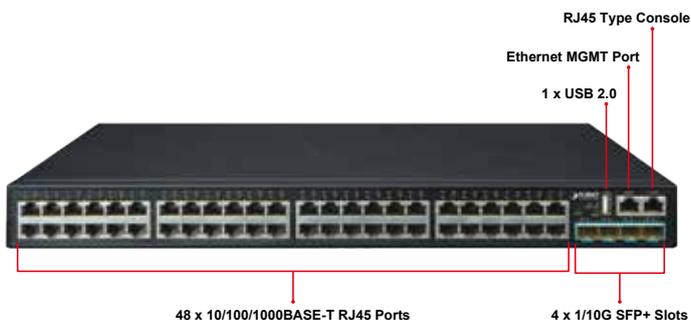**PLANET**
Networking & Communication

# Layer 3 48-Port 10/100/1000T + 4-Port 10G SFP+ Stackable Managed Switch

*Powerful Layer 3 Routing Solution for Enterprise and Data Center Networks*

PLANET SGS-6341-48T4X is a Layer 3 Stackable Managed Gigabit Switch that provides high-density performance, **Layer 3 static routing, RIP (Routing Information Protocol) and OSPF (Open Shortest Path First)**. With **176Gbps switching fabric** and **4 10Gbps uplink ports**, the SGS-6341-48T4X can handle extremely large amounts of data in a secure topology linking to an enterprise backbone or high capacity servers. The powerful WRR (Weighted Round Robin) and network security features make the SGS-6341-48T4X perform effective data traffic control for ISP and enterprise VoIP, video streaming, and multicast applications.

**RJ45 Type Console**

**Ethernet MGMT Port**

**1 x USB 2.0**

**48 x 10/100/1000BASE-T RJ45 Ports**

**4 x 1/10G SFP+ Slots**

*High Performance 10Gbps Ethernet Capacity*

The four SFP+ slots built in the SGS-6341-48T4X boasts a high-performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as 176Gbps, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands. Each of the SFP+ slots supports Dual-Speed, 10GBASE-SR/LR or 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.

## Physical Ports

- 48 10/100/1000BASE-T Gigabit Ethernet RJ45 ports
- **4 10GBASE-SR/LR SFP+** slots, compatible with 1000BASE-SX/LX/BX SFP
- RJ45 to DB9 console interface for switch basic management and setup

## IP Stacking

- Connects with stack member via both Gigabit TP and SFP interfaces
- Single IP address management, supporting up to 24 units stacked together

## IP Routing Features

- IP routing protocol supports **RIPv1/v2, RIPng, OSPFv2/v3, BGP4/4+**
- Routing interface provides per VLAN routing mode
- **VRRPv1/v3** protocol for redundant routing deployment
- Supports route redistribution

## Multicast Routing Features

- Supports PIM-DM (Protocol Independent Multicast – Dense Mode) and PIM-SM (Protocol Independent Multicast – Sparse Mode) and PIM-SSM (Protocol Independent Multicast – Source Specific Multicast)
- Supports DVMRP (Distance Vector Multicast Routing Protocol)
- Supports IGMP v1/v2/v3 and MLD v1/v2

## Layer 2 Features

- Complies with the IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z Gigabit Ethernet standard
- Supports auto-negotiation and half-duplex/full-duplex modes for all 10BASE-T, 100BASE-TX and 1000BASE-T ports
- Auto-MDI/MDI-X detection on each RJ45 port
- Prevents packet loss flow control
  - IEEE 802.3x pause frame flow control in full-duplex mode
  - Back-pressure flow control in half-duplex mode

## IP Stacking Management

The SGS-6341-48T4X supports IP stacking function that helps network managers to easily configure up to 24 switches in the same series via one single IP address instead of connecting and setting each unit one by one. The IP Stacking technology groups PLANET SGS-6341 switch series together to enable centralized management through a single unit, regardless of physical location or switch type, as long as they are connected to the same local network.

### IP Stacking
Up to 24 units with SGS-6341 Series
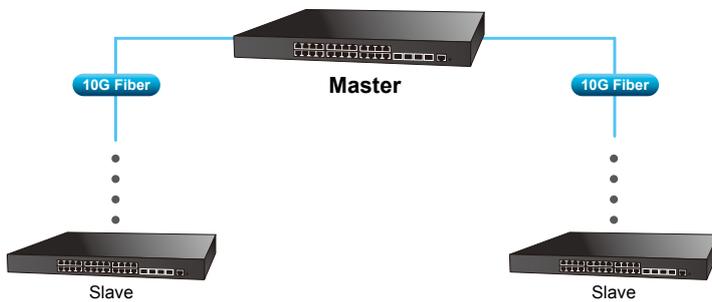


## Layer 3 Routing Support

The SGS-6341-48T4X enables the administrator to conveniently boost network efficiency by configuring Layer 3 static routing manually, and the RIP or OSPF 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.

## Full IPv6 Support

The SGS-6341-48T4X provides **IPv6 management** and enterprise-level secure features such as **SSH, ACL, WRR** and **RADIUS** authentication. It thus helps the enterprises to step in the IPv6 era with the lowest investment. In addition, you don't need to replace the network facilities when the IPv6 FTTx edge network is built.

## Robust Layer 2 Features

The SGS-6341-48T4X can be programmed for basic switch management functions such as port speed configuration, port aggregation, VLAN, Multiple Spanning Tree Protocol, WRR, bandwidth control and IGMP snooping. This switch provides 802.1Q tagged VLAN, Q-in-Q, voice VLAN and GVRP Protocol functions. By supporting port aggregation, the SGS-6341-48T4X allows the operation of a high-speed trunk combined with multiple ports.  It enables up to 16 groups for trunking with a maximum of 8 ports for each group.



- High performance Store-and-Forward architecture, broadcast storm control, port loopback detect
- 16K MAC address table, automatic source address learning and aging
- Supports VLAN
  - IEEE 802.1Q tag-based VLAN
  - GVRP for dynamic VLAN management
  - Up to 256 VLANs groups, out of 4041 VLAN IDs
  - 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 12 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)

### 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/IPv6 DSCP
  - Port-based WRR
- Strict priority and WRR CoS policies

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

## Excellent Layer 2 to Layer 4 Traffic Control

The SGS-6341-48T4X is loaded with powerful traffic management and WRR features to enhance services offered by telecoms. The WRR functionalities include wire-speed Layer 4 traffic classifiers and bandwidth limitation which are particularly useful for multi-tenant unit, multi-business unit, Telco, or network service applications. It also empowers the enterprises to take full advantage of the limited network resources and guarantees the best in VoIP and video conferencing transmission.

## Powerful Security

The SGS-6341-48T4X supports ACL policies comprehensively. The traffic can be classified by source/destination IP addresses, source/destination MAC addresses, IP protocols, TCP/UDP, IP precedence, time ranges and ToS. Moreover, various policies can be conducted to forward the traffic.

The SGS-6341-48T4X also provides IEEE 802.1x port based access authentication, which can be deployed with RADIUS, to ensure the port level security and block illegal users.

## Efficient and Secure Management

For efficient management, the SGS-6341-48T4X Managed Gigabit Switch is equipped with console, Web and SNMP management interfaces. With its built-in Web-based management interface, the SGS-6341-48T4X offers an easy-to-use, platform-independent management and configuration facility. The SGS-6341-48T4X supports standard Simple Network Management Protocol (SNMP) and can be managed via any standard-based management software.

For reducing product learning time, the SGS-6341-48T4X offers Cisco-like command via Telnet or console port and customer doesn't need to learn new command from these switches. Moreover, the SGS-6341-48T4X offers secure remote management by supporting SSH connection which encrypts the packet content at each session.

**SGS-6341 Series**

Secure Management

Computer

SSL  SSH  SNMPv3

## 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
  - SSH/SSL 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
- 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, Option37/38
- Supports ping, trace route function for IPv4 and IPv6

## Intelligent SFP Diagnosis Mechanism

The SGS-6341-48T4X supports **SFP-DDM (Digital Diagnostic Monitor)** function that greatly helps network administrator to easily monitor real-time parameters of the SFP and SFP+ transceivers, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

## Digital Diagnostic Monitor *(DDM)*



SGS-6341 Series
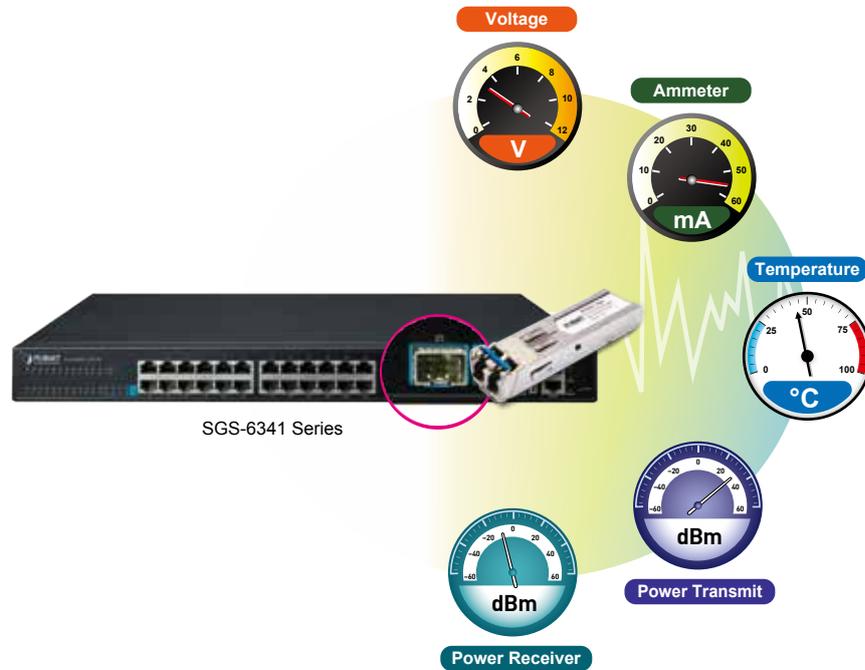
# Applications

### High Availability Mesh Networking Solution for Big Data System

By means of improving the technology of Optical Fiber Ethernet with highly-flexible, highly-extendable and easy-to-install features, the SGS-6341-48T4X offers up to **176Gbps** data exchange speed via Optical Fiber interface and the transmission distance can be extended to 120km. The SGS-6341-48T4X features strong, rapid, self-recovery capability to prevent interruptions and external intrusions. It incorporates **IEEE 802.1s MSTP (Multiple Spanning Tree Protocol, spanning tree by VLAN)** into customer's automation network to enhance system reliability and uptime. The SGS-6341-48T4X is the ideal solution for data centers, service providers and telecoms to build redundant connection and establish high bandwidth for **Big Data** server farm.
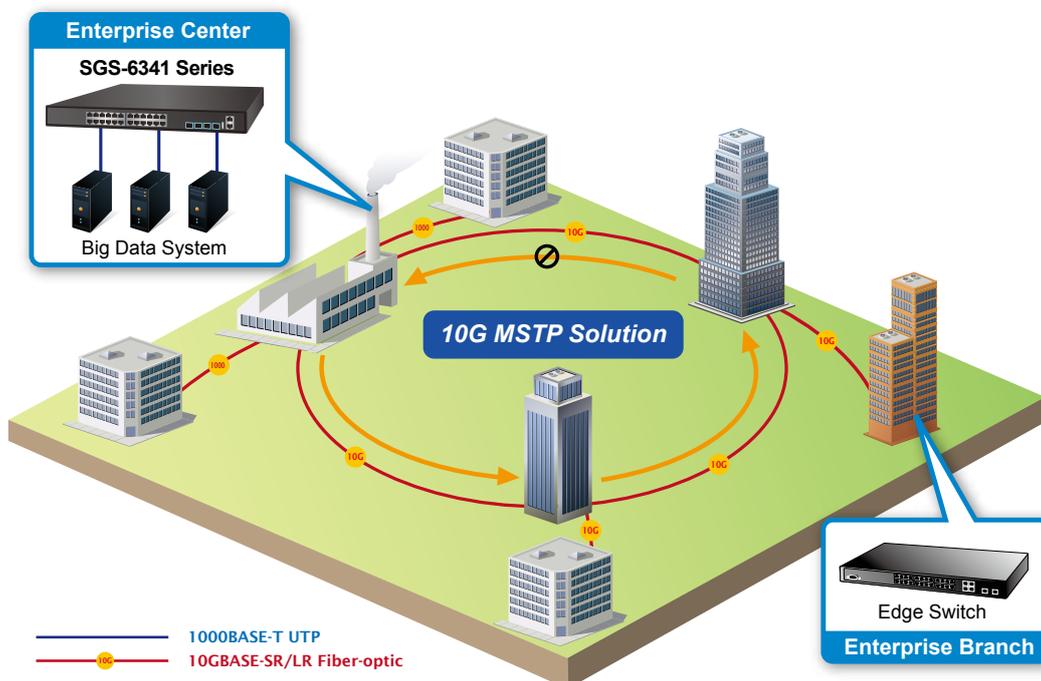
## Excellent Solution to Core/Data Center Security and QoS Switch

The SGS-6341-48T4X performs 176 Gigabits per second non-blocking switch fabric so it can easily provide a local 10Gbps high bandwidth Ethernet network for the backbone of your department. With the four built-in SFP+ ports, the SGS-6341-48T4X provides the uplink to the backbone network through the 10G Ethernet LR/SR SFP+ modules. It further improves the network efficiency and protects the network clients by offering the security and QoS features.

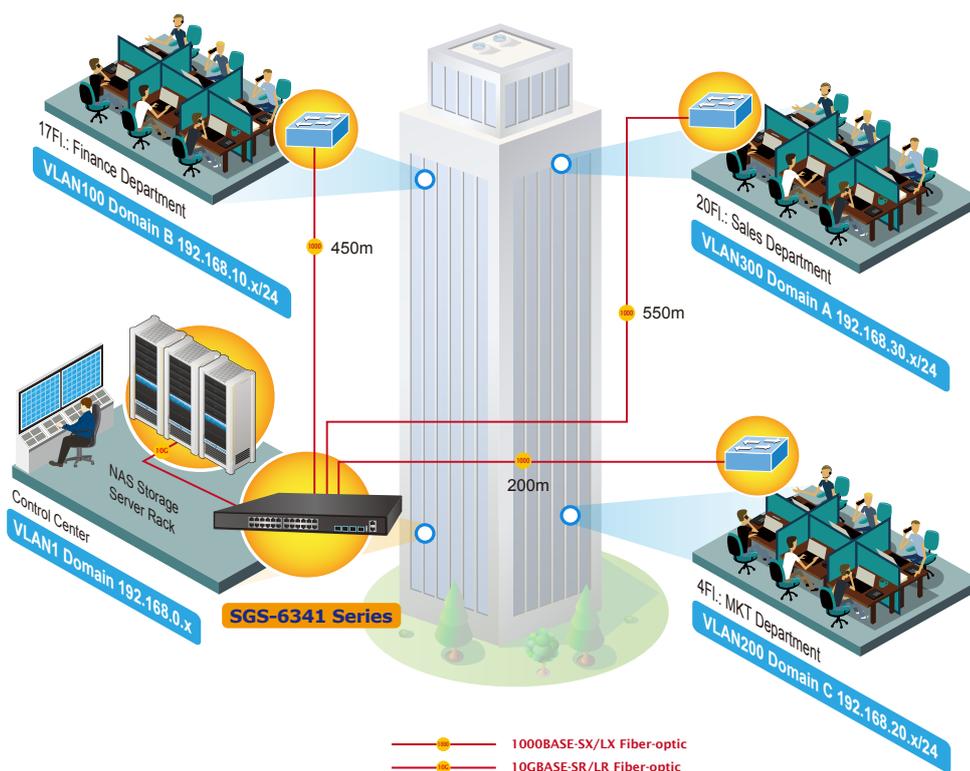### High Performance Server Service
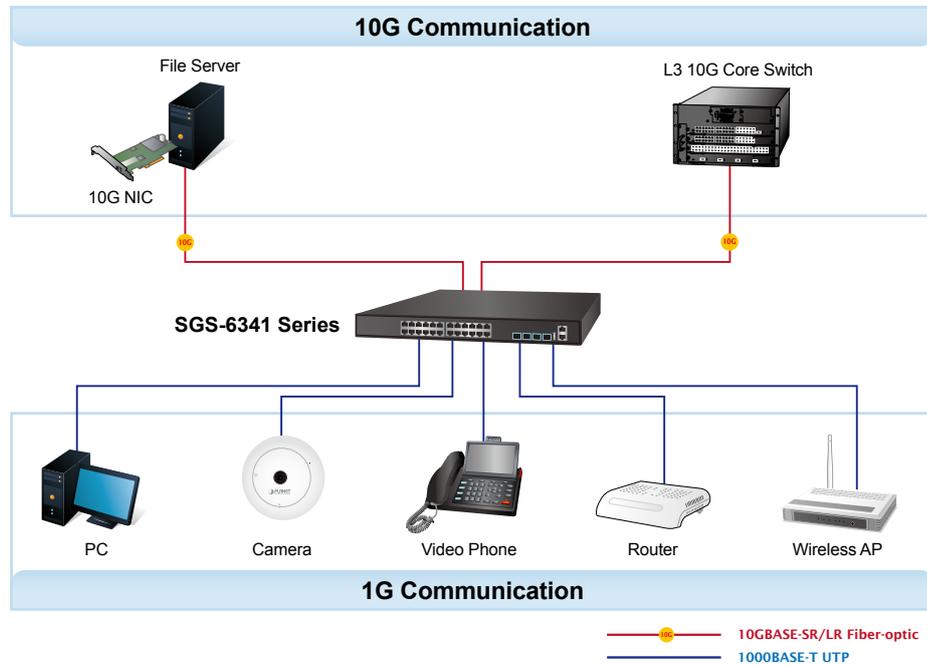


## Layer 3 VLAN Routing

With the built-in robust Layer 3 traffic routing protocols, the SGS-6341-48T4X ensures reliable routing between VLANs and network segments. The routing protocols can be applied via VLAN interface. The SGS-6341-48T4X is certainly a cost-effective and ideal solution for enterprises.

### VLAN Routing + 10G Uplink Applications

# Specifications

| Product | SGS-6341-48T4X |
|---|---|
| **Hardware Specifications** | |
| Copper Ports | 48 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports |
| SFP+ Slots | 4 10GBASE-SR/LR SFP+ interface (port-49 to port-52)<br>Compatible with 1000BASE-SX/LX/BX SFP transceiver |
| Console | 1 x RJ45-to-RS232 serial port (115200, 8, N, 1) |
| Switch Architecture | Store-and-forward |
| Switch Fabric | 176Gbps/non-blocking |
| Switch Throughput | 130.95Mpps |
| Address Table | 16K MAC address table with auto learning function |
| Shared Data Buffer | 1.5MB |
| Flow Control | Back pressure for half-duplex<br>IEEE 802.3x pause frame for full-duplex |
| Jumbo Frame | 10KB |
| LED | System:<br>PWR/MGMT/SYS<br>Ports:<br>10/100/1000T RJ45 Port: LNK/ACT<br>1/10G SFP+ slot: LNK/ACT |
| Dimensions (W x D x H) | 440 x 240 x 43.6 mm, 1U height |
| Weight | 3471g |
| Power Consumption | 46.4 watts/158.22 BTU |
| Power Requirements | AC 100~240V, 50/60Hz |
| **Management Function** | |
| System Configuration | Console, Telnet, SSH, Web browser, SNMP v1, v2c and v3 |
| Management | Supports both IPv4 and IPv6 addressing<br>Supports the user IP security inspection for IPv4/IPv6 SNMP<br>Supports MIB and TRAP<br>Supports IPv4/IPv6 FTP/TFTP<br>Supports IPv4/IPv6 NTP<br>Supports RMON 1, 2, 3, 9 four groups<br>Supports the RADIUS authentication for IPv4/IPv6 Telnet user name and password<br>Supports IPv4/IPv6 SSH<br>The right configuration for users to adopt RADIUS server's shell management<br>Supports CLI, console, Telnet<br>Supports SNMP v1, v2c and v3<br>Supports Security IP safety net management function: avoid unlawful landing at nonrestrictive area<br>Supports Syslog server for IPv4 and IPv6<br>Supports TACACS+ |
| **IPv4 Layer 3 functions** | |
| IP Routing Protocol | Static route, RIPv1/v2, OSPFv2, BGPv4<br>Policy-based routing (PBR)<br>LPM routing (MD5 authentication) |
| Multicast Routing Protocol | IGMP v1/v2/v3, DVMRP, PIM-DM/SM, PIM-SSM |
| Layer 3 Protocol | VRRP v1/v3, ARP, ARP Proxy |
| **IPv6 Layer 3 functions** | |
| IP Routing Protocol | RIPng, OSPFv3, BGPv4+,<br>IPv6 LPM Routing,IPv6 Policy-based Routing(PBR)<br>IPv6 VRRPv3,IPv6 URPF,IPv6 RA |
| Multicast Routing Protocol | PIM-SM/DM for IPv6<br>MLD for IPv6 (v1)<br>MLDv1/v2<br>MLD Snooping, 6to4 Tunnels<br>IPv6 Any Cast RP<br>Multicast receive control<br>Illegal multicast source detect |
| Layer 3 Protocol | Configured Tunnels, ISATAP, GRE Tunnel |
| Other | ICMPv6,ND,DNSv6 |
| **Layer 2 Function** | |
| Port Configuration | Port disable/enable<br>Auto-negotiation 10/100/1000Mbps full and half duplex mode selection<br>Flow control disable/enable<br>Bandwidth control on each port<br>Port loopback detect |

| Port Status | Display each port's speed duplex mode, link status, flow control status and auto negotiation status |
|---|---|
| VLAN | 802.1Q tagged based VLAN, up to 256 VLAN groups<br>802.1ad Q-in-Q (VLAN stacking)<br>GVRP for VLAN management<br>Private VLAN Edge (PVE) supported<br>Protocol-based VLAN<br>MAC-based VLAN<br>IP subnet VLAN |
| Bandwidth Control | TX/RX/Both |
| Link Aggregation | IEEE 802.3ad LACP/static trunk<br>Supports 12 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/IPv6 DSCP<br>  - Port-based WRR |
| Multicast | IGMP v1/v2/v3 snooping<br>Querier mode support<br>MLD v1/v2 snooping<br>Multicast VLAN Register (MVR) |
| Access Control List | Supports Standard and Expanded ACL<br>IP-based ACL/MAC-based ACL<br>Time-based ACL<br>Up to 512 entries |
| Security | Supports MAC + port binding<br>IPv4/IPv6 + MAC + port binding<br>IPv4/IPv6 + port binding<br>Supports MAC filter<br>ARP scanning prevention |
| Authentication | IEEE 802.1x port-based network access control<br>AAA authentication: TACACS+ and IPv4/IPv6 over RADIUS |
| SNMP MIBs | RFC 1213 MIB-II<br>RFC 1215 Internet Engineering Task Force<br>RFC 1271 RMON<br>RFC 1354 IP-Forwarding MIB<br>RFC 1493 Bridge MIB<br>RFC 1643 Ether-like MIB<br>RFC 1907 SNMP v2<br>RFC 2011 IP/ICMP MIB<br>RFC 2012 TCP MIB<br>RFC 2013 UDP MIB<br>RFC 2096 IP forward MIB<br>RFC 2233 if MIB<br>RFC 2452 TCP6 MIB<br>RFC 2454 UDP6 MIB<br>RFC 2465 IPv6 MIB<br>RFC 2466 ICMP6 MIB<br>RFC 2573 SNMP v3 notify<br>RFC 2574 SNMP v3 vacm<br>RFC 2674 Bridge MIB Extensions (IEEE 802.1Q MIB)<br>RFC 2674 Bridge MIB Extensions (IEEE 802.1P MIB) |

## Standards 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 802.3ae 10Gb/s Ethernet<br>IEEE 802.3x flow control and back pressure<br>IEEE 802.3ad port trunk with LACP<br>IEEE 802.1D Spanning Tree Protocol<br>IEEE 802.1w Rapid Spanning Tree Protocol<br>IEEE 802.1s Multiple Spanning Tree Protocol<br>IEEE 802.1p Class of Service<br>IEEE 802.1Q VLAN tagging<br>IEEE 802.1X port authentication network control<br>IEEE 802.1ab LLDP<br>RFC 768 UDP<br>RFC 793 TFTP<br>RFC 791 IP<br>RFC 792 ICMP<br>RFC 2068 HTTP<br>RFC 1112 IGMP v1<br>RFC 2236 IGMP v2<br>RFC 3376 IGMP v3<br>RFC 2710 MLD v1<br>FRC 3810 MLD v2<br>RFC 2328 OSPF v2<br>RFC 1058 RIP v1<br>RFC 2453 RIP v2 |

## Environment

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

# Ordering Information

| | |
|---|---|
| SGS-6341-48T4X | Layer 3 48-Port 10/100/1000T + 4-Port 10G SFP+ Stackable Managed Switch |

# Related Products

| | |
|---|---|
| SGS-6341-24P4X | Layer 3 24-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Stackable Managed Switch (370W) |
| SGS-6341-24T4X | Layer 3 24-Port 10/100/1000T + 4-Port 10G SFP+ Stackable Managed Switch |

# Available Modules for SGS-6341-48T4X

10Gigabit Ethernet Transceiver (10GBASE-X SFP+)

| Model | Speed (Mbps) | Connector Interface | Fiber Mode | Distance | Wavelength (nm) | Operating Temp. |
|---|---|---|---|---|---|---|
| MTB-SR | 10G | LC | Multi Mode | 300m | 850nm | 0 ~ 60 degrees C |
| MTB-LR | 10G | LC | Single Mode | 10km | 1310nm | 0 ~ 60 degrees C |
| MTB-TSR | 10G | LC | Multi Mode | Up to 300m | 850nm | -40 ~ 75 degrees C |
| MTB-TLR | 10G | LC | Single Mode | 10km | 1310nm | -40 ~ 75 degrees C |

10Gbps SFP+ (10GBASE-BX, Single Fiber Bi-directional SFP)

| Model | Speed (Mbps) | Connector Interface | Fiber Mode | Distance | Wavelength (TX) | Wavelength (RX) | Operating Temp. |
|---|---|---|---|---|---|---|---|
| MTB-LA20 | 10G | WDM(LC) | Single Mode | 20km | 1270nm | 1330nm | 0 ~ 60 degrees C |
| MTB-LB20 | 10G | WDM(LC) | Single Mode | 20km | 1330nm | 1270nm | 0 ~ 60 degrees C |
| MTB-LA40 | 10G | WDM(LC) | Single Mode | 40km | 1270nm | 1330nm | 0 ~ 60 degrees C |
| MTB-LB40 | 10G | WDM(LC) | Single Mode | 40km | 1330nm | 1270nm | 0 ~ 60 degrees C |
| MTB-LA60 | 10G | WDM(LC) | Single Mode | 60km | 1270nm | 1330nm | 0 ~ 60 degrees C |
| MTB-LB60 | 10G | WDM(LC) | Single Mode | 60km | 1330nm | 1270nm | 0 ~ 60 degrees C |

Gigabit Ethernet Transceiver (1000BASE-X SFP)

| Model | Speed (Mbps) | Connector Interface | Fiber Mode | Distance | Wavelength (nm) | Operating Temp. |
|---|---|---|---|---|---|---|
| MGB-GT | 1000 | Copper | -- | 100m | -- | 0 ~ 60 degrees C |
| MGB-SX | 1000 | LC | Multi Mode | 550m | 850nm | 0 ~ 60 degrees C |
| MGB-SX2 | 1000 | LC | Multi Mode | 2km | 1310nm | 0 ~ 60 degrees C |
| MGB-LX | 1000 | LC | Single Mode | 10km | 1310nm | 0 ~ 60 degrees C |
| MGB-L30 | 1000 | LC | Single Mode | 30km | 1310nm | 0 ~ 60 degrees C |
| MGB-L50 | 1000 | LC | Single Mode | 50km | 1550nm | 0 ~ 60 degrees C |
| MGB-L70 | 1000 | LC | Single Mode | 70km | 1550nm | 0 ~ 60 degrees C |
| MGB-L120 | 1000 | LC | Single Mode | 120km | 1550nm | 0 ~ 60 degrees C |
| MGB-TSX | 1000 | LC | Multi Mode | 550m | 850nm | -40 ~ 75 degrees C |
| MGB-TLX | 1000 | LC | Single Mode | 10km | 1310nm | -40 ~ 75 degrees C |
| MGB-TL30 | 1000 | LC | Single Mode | 30km | 1310nm | -40 ~ 75 degrees C |
| MGB-TL70 | 1000 | LC | Single Mode | 70km | 1550nm | -40 ~ 75 degrees C |

Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

| Model | Speed (Mbps) | Connector Interface | Fiber Mode | Distance | Wavelength (TX) | Wavelength (RX) | Operating Temp. |
|---|---|---|---|---|---|---|---|
| MGB-LA10 MGB-LB10 | 1000 | WDM (LC) | Single Mode | 10km | 1310nm / 1550nm | 1550nm / 1310nm | 0 ~ 60 degrees C |
| MGB-LA20 MGB-LB20 | 1000 | WDM (LC) | Single Mode | 20km | 1310nm / 1550nm | 1550nm / 1310nm | 0 ~ 60 degrees C |
| MGB-LA40 MGB-LB40 | 1000 | WDM (LC) | Single Mode | 40km | 1310nm / 1550nm | 1550nm / 1310nm | 0 ~ 60 degrees C |
| MGB-LA60 MGB-LB60 | 1000 | WDM (LC) | Single Mode | 60km | 1310nm / 1550nm | 1550nm / 1310nm | 0 ~ 60 degrees C |
| MGB-TLA10 MGB-TLB10 | 1000 | WDM (LC) | Single Mode | 10km | 1310nm / 1550nm | 1550nm / 1310nm | -40 ~ 75 degrees C |
| MGB-TLA20 MGB-TLB20 | 1000 | WDM (LC) | Single Mode | 20km | 1310nm / 1550nm | 1550nm / 1310nm | -40 ~ 75 degrees C |
| MGB-TLA40 MGB-TLB40 | 1000 | WDM (LC) | Single Mode | 40km | 1310nm / 1550nm | 1550nm / 1310nm | -40 ~ 75 degrees C |
| MGB-TLA60 MGB-TLB60 | 1000 | WDM (LC) | Single Mode | 60km | 1310nm / 1550nm | 1550nm / 1310nm | -40 ~ 75 degrees C |

**SGS-6341-48T4X**