



## MES3500-24S

### 24-port Fast Ethernet L2 Switch with Four GbE Combo Ports

The Zyxel MES3500-24S has been specially designed for service providers to deliver profitable Ethernet services. With the high-performance hardware platform, service providers can easily extend network topologies while enabling robust security, QoS and management functions to help customers fulfilling different needs and to support the IPv6 for trouble-free future network expansions.

#### Benefits

##### Advanced QoS for significant services

The Zyxel MES3500-24S offers wire-speed flow control that classifies and prioritizes the incoming packets according to the predefined QoS policies that meet requirements of service providers.

##### Enhanced security for protection among customers

The Zyxel MES3500-24S provides a multilayer (L2/L3/L4) ACL suite of sophisticated policy-based control mechanisms and a complete set of security features, which enables service providers to deploy easily based on actual network environment needs via a Web GUI or command line interface and protects user data while administrating the traffics.

##### Rich IPv6 features built-in for future-proof network expansions

As IPv6 management features as a future trend, complete IPv6 host management capabilities are added to the MES3500-24S for guaranteed IPv6/4 migration and future-proof expansion.



8 K MAC address table



Policy-based QoS optimizes multi-service quality



IGMP snooping v1, v2, v3; MVR



Multilayer-aware (L2/L3/L4) ACL for security protection



Wire speed



IPv6 management support

## Resilient and redundant design

The MES3500-24S provides features to make sure network is well operated. The IEEE 802.3ad Link Aggregation feature reduces network downtime by providing redundant paths and bandwidth aggregation to critical connections, while IEEE 802.1D-2004 rapid spanning tree protocol and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) allow immediate recovery from failed connections by sending packets via the backup link.

## Digital Diagnostics Monitoring Interface (DDMI) SFP support

With the digital diagnostic monitoring interface, the MES3500-24S enables users to easily detect packet loss from transceivers and aging cables.

DDMI Monitors:

- Temperature
- Supply voltage
- Transmitted bias current
- Transmitted power
- Received power

All features listed above include alarm and warning thresholds.

## Specifications

### Port density

- 10/100 FE BASE-T, fixed: 24
- Combo GbE ports: 4

### Performance

- Switching capacity: 12.8 Gbps
- Forwarding rate: 9.6 Mpps
- MAC address: 8K

### Power requirement

- Input voltage for AC: 100V – 240V

### Power consumption

- AC=9.3

### Physical specifications

- Item dimensions (WxDxH):  
440 x 180 x 44 mm  
(17.32" x 7.08" x 1.73")
- Item weight: 2.17 kg (4.78 lb.)
- Packing dimensions (WxDxH):  
525 x 250 x 80 mm  
(20.66" x 9.84" x 3.14")
- Packing weight: 2.6 kg (5.73 lb.)

### Environment specifications

#### Operating environment

- Temperature:  
0°C to 50°C (32°F to 122°F)  
(With ventilation)
- Humidity:  
10% to 95% (non-condensing)

#### Storage environment

- Temperature:  
-40°C to 70°C (-40°F to 158°F)

# Features

## Standard compliance

- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3u 100BASE-Tx Ethernet
- IEEE 802.ab 1000BASE-T Ethernet
- IEEE 802.3z 1000BASE-X
- IEEE 802.3x flow control
- IEEE 802.1D-2004 rapid spanning tree protocol
- IEEE 802.1s multiple spanning tree protocol
- IEEE 802.1p class of service, priority protocols
- IEEE 802.1Q VLAN tagging
- IEEE 802.1X port authentication
- IEEE 802.3ad LACP aggregation
- IEEE 802.3az Energy Efficient Ethernet (EEE)\*

## Traffic management and QoS

- Broadcast storm control
- IEEE 802.1p with 8 hardware priority queues per port for different types of traffic
- IEEE 802.1Q tag-based and port-based VLAN
- Weighted Fair Queuing (WFQ)/WRR/SPQ scheduling algorithm
- Policy based rate limiting
- Policy based bandwidth control
- Port based traffic shaping
- Policy-based traffic mirroring
- IGMP snooping (v1, v2, v3)
- IGMP filtering
- IGMP authentication
- Jumbo frame support (9 K Bytes) for high performance data backup or recovery services
- Support GVRP, automatic VLAN member registration
- Multicast VLAN Registration (MVR)

## Link aggregation

- IEEE 802.3ad LACP link aggregation compliant
- Support static manually port trunking
- Up to 8 aggregation groups, 8 ports/ per group randomly selected
- VLAN trunking

## User security and authentication

- IEEE 802.1X authentication
- IP source guard (static IP/MAC binding, DHCP snooping, ARP inspection)

- IP subnet VLAN & VLAN isolation
- Limiting MAC number per port
- Loop guard prevents a switch from being affected by another switch which is already in a looping status
- MAC filtering per port secures access to each port
- MAC freeze
- Port security, port isolation, port mirroring
- Static MAC forwarding per port: only specified MAC addresses can access the network (port security)
- Wire speed filtering per MAC/IP/TCP/UDP
- Wire speed mirroring per MAC/IP/TCP/UDP
- Wire speed rate limiting per MAC/IP/TCP/UDP
- GVRP, automatic VLAN member registration
- Guest VLAN
- CPU protection
- PPPoE IA & DHCP option 82
- RSPAN

## Network administration security

- SSH v2
- SSL
- RADIUS accounting
- TACACS+ authentication, accounting
- NTP, daylight saving

## IPv6 host

- IPv6 over Ethernet (RFC 2464)
- IPv6 addressing architecture (RFC 4291)
- Dual stack (RFC4213)
- ICMPv6 (RFC4884)
- Path MTU (RFC 1981)
- Minimum path MTU size of 1280 (RFC 5905)
- Encapsulation for minimum PMTU of 1500
- Neighbor discovery (RFC4861)
- DHCPv6 relay/client

## Network management

- Supports Zyxel iStacking™, up to 24 switches can be managed by one IP address
- Intuitive Web-based management with all features configurable
- Text-based configuration profile for massive deployment
- SNMP v1, v2c, v3
- SNMP trap group

- RMON four RMON groups 1, 2, 3, 9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
- Out-of-Band management: RS-232c local console
- Firmware upgrade, configuration backup/restore via ftp
- Send system trap to trap server
- DHCP relay, DHCP relay per VLAN, DHCP relay option 82, DHCP client
- Port mirroring: supports source/destination/both port mirroring
- IEEE 802.3ah Ethernet Operations, Administration and Management (OAM)

## Intelligent ACL (L2/L3/L4 access list control)

- Based on port
- Based on MAC + VLAN ID
- Based on IP address (source/destination)
- Based on protocol type
- Based on TCP/UDP port number

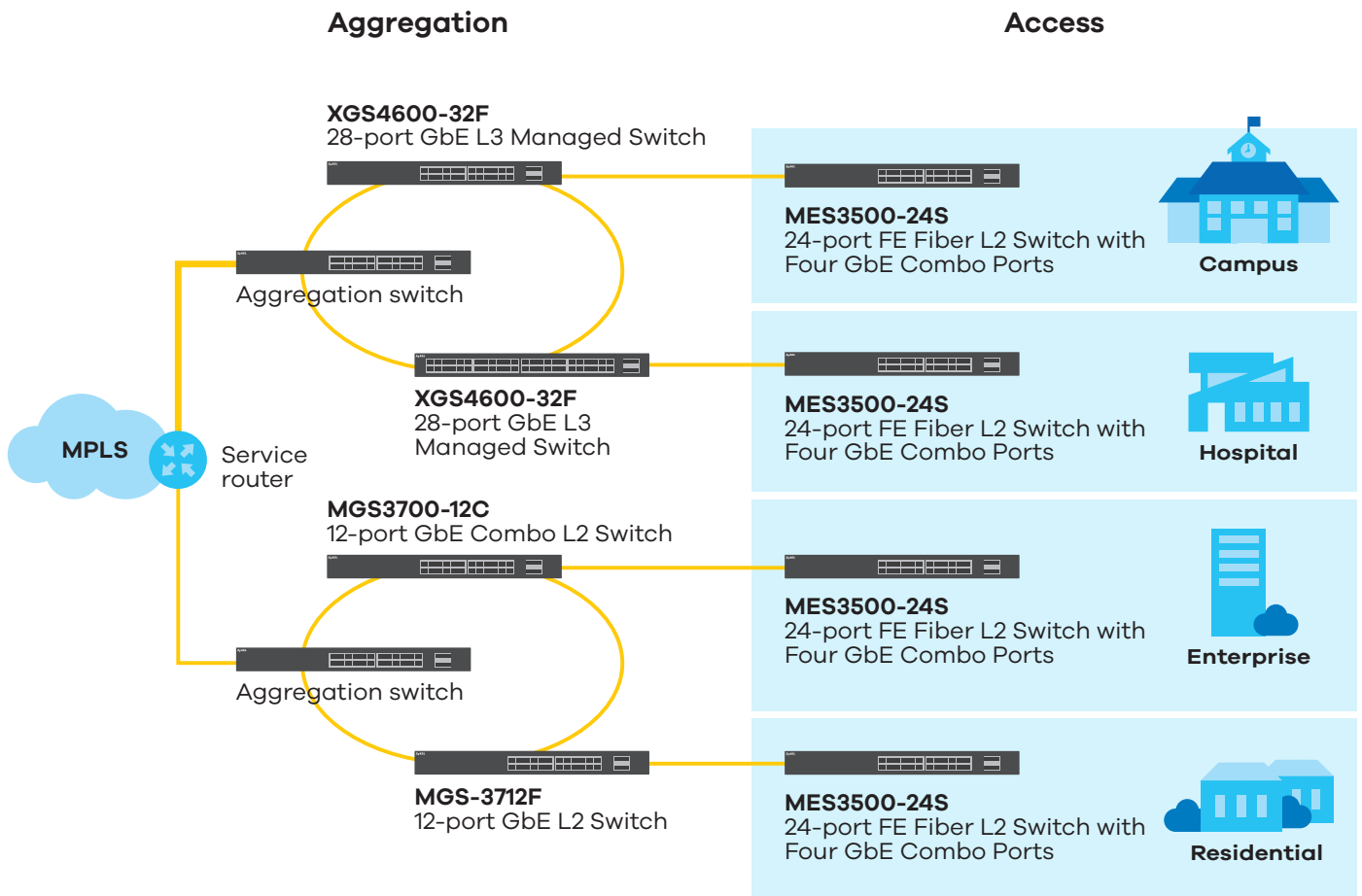
## MIB information

- RFC1213 MIB II
- RFC1493 bridge MIB
- RFC1643 Ethernet MIB
- RFC1757 RMON group 1, 2, 3, 9
- RFC2011 IP MIB
- RFC2012 TCP MIB
- RFC2013 UDP MIB
- RFC2233 ifVHC packet group
- RFC2674 VLAN MIB
- RFC2925 PING-MIB and TRACEROUTE-MIB
- Zyxel private MIB
- Management Information Base (MIB) for IP (RFC4293)(V400)
- IP forwarding table MIB (RFC4292) (V400)
- Management information base for transmission control protocol (RFC4022) (V400)
- Management information base for user datagram protocol (RFC4113) (V400)

## Safety agency certification

- BSMI (MES3500-24 and MES3500-24F)
- LVD/EN 60950-1
- CE
- FCC
- WEEE/RoHS 2/REACH compliant

# Application diagram



## SFP transceivers (Optional)

Speed	Model	Type	Description
<b>Gigabit (with DDMI)</b>	SFP-SX-DS	LC connector	GbE SFP SX Multi-Mode 550 m (1804 ft) commercial type transceiver, DDMI version
	SFP-LX-5DS	LC connector	GbE SFP LX 5 km (5468 yd) commercial type transceiver, DDMI version
	SFP-LX-15DS	LC connector	GbE SFP LX 15 ~ 20 km (16404 ~ 21872 yd) commercial type transceiver, DDMI version
	SFP-BXA-20DS	LC connector	GbE SFP; BX 20 km (21872 yd) Bidirectional Type-A 1310 ~ 1550Tx, DDMI version
	SFP-BXB-20DS	LC connector	GbE SFP; BX 20 km (21872 yd) Bidirectional Type-B 1550 ~ 1310Tx, DDMI version
	SFP-BXC-20DS	LC connector	GbE SFP; BX 20 km (21872 yd) Bidirectional Type-C 1310 ~ 1490Tx, DDMI version
	SFP-BXD-20DS	LC connector	GbE SFP; BX 20 km (21872 yd) Bidirectional Type-D 1490 ~ 1310Tx, DDMI version
	SFP-LHX-40DS	LC connector	GbE SFP LHX wavelength=1310, 40 km (43744 yd) commercial type transceiver, DDMI version
	SFP-ZX-80DS	LC connector	GbE SFP ZX wavelength=1550, 80 km (87488 yd) commercial type transceiver, DDMI version



For more product information, visit us on the web at [www.zyxel.com](http://www.zyxel.com)

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Datasheet [MES3500-24S](#)

