MICROSENS

10port Gigabit Ethernet Switch
8x 10/100/1000Base-T,
2x SFP-Combo Ports

Description

MICROSENS developed this 10 Port Gigabit Ethernet Switch for today's higher bandwidth demand in office environments. The two modular transceiver ports (SFPs) of the switch are offering a very high flexibility for Fiber To The Office (FTTO) and Enterprise Network applications.

The manageable Switch is equipped with 10 twisted-pair ports which are adjusting automatically (10/100/1000Base-T auto negotiation) to the speed of the connected end device. Two ports can be configured as uplink ports and are designed as SFP slots and are used for the connection to the central distribution. A wide range of multimode and single mode SFPs is available.

The Gigabit Switch is compatible with the SNMP, Telnet and web based management interfaces and supports standards like QoS, VLAN, Access Control, Layer 3 static routing etc.

Features

Manageable Gigabit Ethernet Switch for the connection of end devices with twisted pair ports to multimode or single mode fiber segments (1000Base-X) via SFP modules according to IEEE802.3ab.

- L2+ Managed features provide easier manageability, robust security and QoS.
- Built in Device Management
- DHCP Server
- IPv4/IPv6 L3 static route
- IEEE 802.3az EEE Energy Efficient Ethernet standard for green Ethernet

Benefits

- Feature-rich Ethernet Switch for Enterprise Class
  The switch delivers advanced functionality in L2+ managed switch including Layer 3 static route, DHCP server, IPv6 support, LLDP, etc. It also has comprehensive security features such as IP source guard and ACL to guard your network from unauthorized access. It helps users to build on the market-leading price/performance with L2+ Managed GbE switch, and provide secure, reliable and ease of use for enterprise/SMB deployments.

- Easy to Install, Configure and Troubleshoot by Device Management System
  The DMS provides embedded functions to facilitate devices management at anytime and anywhere. Its user-friendly interface helps users to manage devices intuitively. It supports various IP device types (e.g. IP-phone, IP-camera, WiFi-AP) for end users to enhance manageability and save time/cost during installation/maintenance stages.

- Lowing Total Cost of Ownership (TCO) with Energy-efficient Design
  It is designed to help customers to reduce power consumption and lower the TCO by Energy Efficient Ethernet (IEEE 802.3az) features. It can be used for customers to build a green Ethernet networking environment.

Technical Specifications

Port Configuration

Total Ports	RJ45 (10M/100M/1G)	Uplinks (100M/1G)	Console
10	8	2 RJ-45/SFP combo	RJ-45

Hardware Performance

Forwarding Capacity	Switching Capacity	Mac Table	Jumbo Frames
14.88 Mpps	20 Gbps	8K	9K

Environmental Range

Operating Temperature		Storage Temperature		Altitude	
Fahrenheit	Centigrade	Fahrenheit	Centigrade	Feet	Meters
32 to 104	0 to 40	-4 to 158	-20 to 70	< 10000	< 3000

Dimension, Weights, Humidity (MS453526M)

Dimension (WxHxD)		Weight		Operating Humidity
Millimeter	Inches	Kilograms	Pounds	
220 x 38 x 134	8.7 x 1.5 x 5.28	1.4	3.1	10% to 90% non-condensing

Voltage and Frequency

AC Input Voltage and Frequency	
Voltage	100-240 VAC
Frequency	50~60 Hz

Certification

Electromagnetic Emissions (EMC)
CE

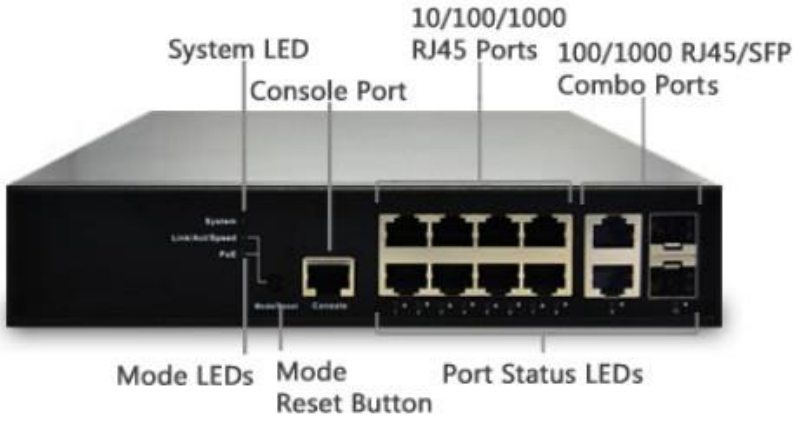
Software Features

Layer 2 Switching	
Spanning Tree Protocol (STP)	● Standard Spanning Tree 802.1d ● Rapid Spanning Tree (RSTP) 802.1w ● Multiple Spanning Tree (MSTP) 802.1s
Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad ● Up to 5 groups ● Up to 2 ports per group
VLAN	Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs) ● Port-based VLAN ● 802.1Q tag-based VLAN ● MAC-based VLAN ● Management VLAN ● Private VLAN Edge (PVE) ● Q-in-Q (double tag) VLAN ● Voice VLAN ● GARP VLAN Registration Protocol (GVRP)
DHCP Relay	● Relay of DHCP traffic to DHCP server in different VLAN ● Works with DHCP Option 82
IGMP v1/v2/v3 Snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups
IGMP Querier	IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router
IGMP Proxy	IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router
MLD v1/v2 Snooping	Delivers IPv6 multicast packets only to the required receivers

Layer 3 Switching	
IPv4 Static Routing	IPv4 Unicast: Static routing
IPv6 Static Routing	IPv6 Unicast: Static routing
Security	
Secure Shell (SSH)	SSH secures Telnet traffic in or out of the switch, SSH v1 and v2 are supported
Secure Sockets Layer (SSL)	SSL encrypts the http traffic, allowing advanced secure access to the browser-based management GUI in the switch
IEEE 802.1X	● IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions ● Supports IGMP-RADIUS based 802.1X ● Dynamic VLAN assignment
Layer 2 Isolation Private VLAN Edge	PVE (also known as protected ports) provides L2 isolation between clients in the same VLAN. Supports multiple uplinks
Port Security	Locks MAC addresses to ports, and limits the number of learned MAC address
IP Source Guard	Prevents illegal IP address from accessing to specific port
RADIUS/ TACACS+	Supports RADIUS and TACACS+ authentication. Switch as a client
Storm Control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port
DHCP Snooping	A feature acts as a firewall between untrusted hosts and trusted DHCP servers
ACLs	Supports up to 256 entries. Drop or rate limitation based on: ● Source and destination MAC, VLAN ID or IP address, protocol, port, ● Differentiated services code point (DSCP) / IP precedence ● TCP/ UDP source and destination ports ● 802.1p priority ● Ethernet type ● Internet Control Message Protocol (ICMP) packets ● TCP flag
Quality of Service	
Hardware Queue	Supports 8 hardware queues
Scheduling	● Strict priority and weighted round-robin (WRR) ● Queue assignment based on DSCP and class of service
Classification	● Port based ● 802.1p VLAN priority based ● IPv4/IPv6 precedence / DSCP based ● Differentiated Services (DiffServ) ● Classification and re-marking ACLs
Rate Limiting	● Ingress policer ● Egress shaping and rate control ● Per port
Management	
DHCP Server	Support DHCP server to assign IP to DHCP clients
Zero Touch Upgrade	Upgrade single switch automatically when you get notification
Remote Monitoring (RMON)	Embedded RMON agent supports RMON groups 1,2,3,9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring and analysis

Port Mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to N-1 (N is Switch's Ports) ports can be mirrored to single destination port. A single session is supported.
UPnP	The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play
s-Flow	The industry standard for monitoring high speed switched networks. It gives complete visibility into the use of networks enabling performance optimization, accounting/billing for usage, and defense against security threats
IEEE 802.1ab (LLDP)	● Used by network devices for advertising their identities, capabilities, and neighbors on an IEEE 802ab local area network ● Support LLDP-MED extensions
Web GUI Interface	Built-in switch configuration utility for browser-based device configuration
CLI	For users to configure/manage switches in command line modes
Dual Image	Independent primary and secondary images for backup while upgrading
SNMP	SNMP version1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)
Firmware Upgrade	● Web browser upgrade (HTTP/ HTTPs) and TFTP ● Upgrade through console port as well
NTP	Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched
Other Management	● HTTP/HTTPs; SSH ● DHCP Client/ DHCPv6 Client ● Cable Diagnostics ● Ping ● Syslog ● Telnet Client ● IPv6 Management

View



10 Port Gigabit Ethernet Switch (MS453526M)

Order Information

Art.-No.	Description	Connectors
MS453526M	10 Port Gigabit Ethernet SNMP manageable Switch 8x 10/100/1000T, 2x Combo-Ports 10/100/1000T or 100/1000X SFP, int. Power supply 100..240 VAC, VLANs, QoS, LACP, 802.1x Authentication, RSTP/MSTP, Management SNMP V1/2/3/https/SSH	8x RJ-45 Switch 2x SFP/RJ-45 Combo 1x Console 1x AC Power
MS453526-MW	19" Rack mounting set for MS453526M and MS453526PM, 2 pcs, black	
MS100200D	SFP Gigabit Ethernet Transceiver 850nm multimode, LC connector, max. 550 m	2x LC
MS100210D	SFP Gigabit Ethernet Transceiver, 1310nm single mode, LC connector, max. 10 km	2x LC
MS100211D	SFP Gigabit Ethernet Transceiver, 1310nm single mode, LC connector, max. 25 km	2x LC
MS100213D	SFP Gigabit Ethernet Transceiver, 1550nm single mode, LC connector, max. 50 km	2x LC