

Specification	Model			
	MSW-4428X	MSW-4424CS	MSW-4424A	MSW-4424C
<b>MEF standard compliance</b>	CE 2.0 E-Line/E-LAN/E-tree/E-Access	CE 2.0 E-Line/E-Access	CE 2.0 E-Line/E-Access	CE 2.0 E-Line/E-Access
<b>HW interface</b>				
<b>Uplink port</b>	10GBase-X/1000Base-X SFP slot x 4	10GBase-X/1000Base-X SFP slot x 4	10GBase-X/1000Base-X SFP slot x 4	10GBase-X/1000Base-X SFP slot x 4
<b>Service LAN port</b>	100/1000Base-X SFP slot x 24 + 10/100/1000Base-T RJ45 x 4	100/1000Base-X SFP slot x 20 + GbE combo port x 4	100/1000Base-X SFP slot x 24	100/1000Base-X SFP slot x 20 + GbE combo port x 4
<b>Console port</b>	RJ45 x 1 (RS-232)	RJ45 x 1 (RS-232)	RJ45 x 1 (RS-232)	RJ45 x 1 (RS-232)
<b>Management Port</b>	10/100/1000Base-T RJ45 x 1	10/100/1000Base-T RJ45 x 1		10/100/1000Base-T RJ45 x 1
<b>1 PPS / ToD</b>		RJ45 x 1		
<b>HW specification &amp; performance</b>				
<b>Power module</b>	AC power : 100 ~ 240VAC DC power : 18 ~ 60VDC (24V) 36 ~ 60VDC (48V)	AC power : 100 ~ 240VAC DC power : 36 ~ 60VDC (48V)	AC power : 100 ~ 240VAC DC power : 18 ~ 60VDC (-24V) 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC DC power : 36 ~ 60VDC (48V)
<b>Power supply type</b>	Dual power & Built-In	Dual power & built-in	Dual power & hot swappable	Dual power & built-in
<b>Switching fabric capacity</b>	136Gbps	128Gbps	128Gbps	128Gbps
<b>Packet buffer</b>	32M bits	32M bits	32M bits	32M bits
<b>MAC address table size</b>	32K	32K	32K	32K
<b>Jumbo frame size</b>	10K Bytes	10K Bytes	10K Bytes	10K Bytes
<b>Layer 2 feature</b>				
<b>Flow control</b>	IEEE 802.3x for full duplex mode	√		
	Back pressure for half duplex mode	√		
<b>VLAN</b>	VLAN Group	4K	4K	4K
	VLAN ID	1 ~ 4094	1 ~ 4094	1 ~ 4094
	IEEE 802.1Q tagged VLAN	√	√	√
	MAC based VLAN	√	√	√
	IEEE 802.1v Protocol & subnet based VLAN	√	√	√
	IEEE 802.1ad Q-in-Q	√	√	√
	Q-in-Q TPID selectable	√	√	√
	Voice VLAN	√	√	√
	Private VLAN	√	√	√
	VLAN translation	√	√	√
<b>Aggregation</b>	Static Trunk (SA, DA, IP, TCP/UDP port)	√	√	√
	Max. trunk No. (LACP)	16	14	14
	Port No. per (LACP)	8 Max.	8 Max.	8 Max.
<b>Spanning Tree</b>	802.1D STP	√	√	√
	802.1w RSTP	√	√	√
	802.1s MSTP	√	√	√
<b>Loop protection</b>	√	√	√	√
<b>ITU-T G.8031</b>	√	√	√	√
<b>ITU-T G.8032</b>	Convergence time	50 ms	50 ms	50 ms
	Revertive operation mode	√	√	√
<b>ERPS</b>	Multiple-ring network	√	√	√
<b>QoS feature</b>				
<b>Priority Queues</b>	8	8	8	8
<b>Traffic scheduling</b>	WRR priority scheduling	√	√	√
	Strict priority scheduling	√	√	√
	Hybrid	√	√	√
<b>Traffic classification</b>	802.1p based COS	√	√	√
<b>QoS</b>	IP Precedence based COS	√	√	√
	IP DSCP based COS	√	√	√
<b>Two rate three color markers</b>	Ingress traffic policing	√	√	√
	Egress traffic shaping	√	√	√
	Marking/remarking	√	√	√
<b>Rate limiting</b>	Ingress	Per port based/Per queue based	Per port based/Per queue based	Per port based/Per queue based
	Egress	Per port based / Per queue based	Per port based / Per queue based	Per port based / Per queue based
<b>Diffserv remarking (RFC2474)</b>	√	√	√	√
<b>IP Multicasting</b>				
<b>IGMP Snooping v1/v2/v3</b>	√	√	√	√
<b>IGMP filtering/throttling</b>	√	√	√	√
<b>IGMP Fast Leave</b>	√	√	√	√
<b>IGMP query</b>	√	√	√	√
<b>IGMP proxy reporting</b>	√	√	√	√
<b>MLD snooping v1/v2</b>	√	√	√	√
<b>MVR (Multicast VLAN Registration)</b>	√	√	√	√
<b>Security features</b>				
<b>Static Port Security (MAC-based)</b>	√	√	√	√
<b>Per port limited MAC learning</b>	√	√	√	√
<b>IEEE 802.1X</b>	Port-Based	√	√	√
	MAC-Based	√	√	√
	Dynamic VLAN Assignment	√	√	√
	QoS Assignment (w/o ACL profile)	√	√	√
	QoS assignment w/ ACL profile	√	√	√
	Guest VLAN / Voice VLAN	√	√	√
<b>ACL</b>	Number of rules	512	512	512
	L2/L3/L4	√	√	√
<b>RADIUS authentication</b>	√	√	√	√
<b>RADIUS authentication &amp; accounting</b>	√	√	√	√
<b>TACACS+ authentication</b>	√	√	√	√
<b>HTTPS &amp; SSL</b>	√	√	√	√
<b>SSH v2</b>	√	√	√	√
<b>User name password authentication</b>	Local Authentication	√	√	√
	Remote Authentication	√	√	√
	via RADIUS/TACACS+	√	√	√
<b>Management Interface Access Filtering</b>	SNMP	√	√	√
	Web	√	√	√
	Telnet/SSH	√	√	√
<b>Management features</b>				
<b>Cisco like CLI</b>	√	√	√	√
<b>Web based management</b>	√	√	√	√
<b>Telnet Server</b>	√	√	√	√
<b>SNMP v1/v2c/v3</b>	√	√	√	√
<b>SW &amp; configuration upgrade</b>	TFTP	√	√	√
	HTTP	√	√	√
<b>RMON I (1,2,3,9 group)</b>	√	√	√	√
<b>MIB II</b>	RFC 1213	√	√	√
<b>DHCP</b>	Client	√	√	√
	Relay	√	√	√
	snooping	√	√	√
	relay option 82	√	√	√
<b>IP Source Guard</b>	√	√	√	√
<b>Port mirroring</b>	√	√	√	√
<b>RSPAN (remote mirroring)</b>				
<b>Event Syslog</b>	Syslog server (RFC3164)	Support 1 server	Support 3 server	Support 1 server
	Client	√	√	√
<b>DNS</b>	Proxy	√	√	√
		√	√	√
<b>NTP</b>	√	√	√	√
<b>LLDP (IEEE 802.1ab)</b>	Link Layer Discovery Protocol	√	√	√
	LLDP-MED	√	√	√
<b>UPnP</b>	√	√	√	√
<b>sFlow</b>	√	√	√	√
<b>L2CP</b>	√	√	√	√
<b>IPv6 Management (Telnet Server/ICMP v6)</b>	√	√	√	√
<b>SFF-8472 DDMI</b>	√	√	√	√
<b>Ethernet OAM features</b>				
<b>IEEE 802.3ah</b>	Peer discovery	√	√	√
	Dying gasp	√	√	√
	Loopback	√	√	√
	Event notification	√	√	√
<b>IEEE 802.1ag</b>	CCM	√	√	√
	Loopback	√	√	√
	Linktrace	√	√	√
<b>ITU-T Y.1731</b>	CCM/Loopback/Linktrace	√	√	√
	Loss measurement	√	√	√
	Delay Measurement	√	√	√
	TEST signal	√	√	√
<b>RFC2544 tester functionality</b>	√			
<b>ITU-T Y.1564</b>	√			
<b>Timing synchronization</b>				
<b>ITU-T G.8262 SyncE</b>	√	√	√	√
<b>IEEE 1588v2</b>	√	√	√	√
<b>Others</b>				
<b>Dimension</b>	270.3 x 437.5 x 43.5 mm	250 x 440 x 43.5 mm	270.3 x 437.5 x 43.5 mm	250 x 440 x 43.5 mm
<b>Operating temperature</b>	-10 ~ 60 degree C	0 ~ 50 degree C	-10 ~ 60 degree C	0 ~ 50 degree C
<b>Operating humidity</b>	5% ~ 90% (non-condensing)	5% ~ 90% (non-condensing)	5% ~ 90% (non-condensing)	5% ~ 90% (non-condensing)
<b>Power consumption</b>	< 60W	< 60W	< 60W	< 60W
<b>Installation type</b>	19" rack mounting	19" rack mounting	19" rack mounting	19" rack mounting