

# MES1024, 1124, 2124 Access switch series

## Description:

The MES1024, MES1124, MES2124 series of switches are designed for use in service provider networks as L2 access layer switches. The MES1x24 switches are equipped with 24 ports 10/100Base-T, and 2 or 4 Combo ports 1000Base-T/Base-X. The MES2124 offers 24 ports 10/100/1000Base-T, and 4 Combo ports 1000Base-T/Base-X. The switches provide connection by end users to large enterprise networks, small and medium businesses and to operator networks – ISP, Internet Service Providers via 100M/1G interfaces. The functionality of the switch provides the option of physical stacking, support of VLANs, virtual local area networks, support of multicast distribution groups and advanced security features.



MES1024-AC



MES2124-AC

## Features:

- L2 switch
- High performance
- Stackable
- Multicast support
  - IGMP
  - IGMP snooping
  - MVR
- Advanced security functions:
  - L2-L4 ACL
  - IP source guard
  - Dynamic ARP Inspection, etc.

## Technical specifications:

	MES1024	MES1124	MES2124
Interface	24x 10/100Base-T (RJ-45)	24x 10/100Base-T (RJ-45)	24x 10/100/1000Base-T (RJ-45)
	2x 10/100/1000Base-T/ 1000Base-X (SFP)	4x 10/100/1000Base-T/ 1000Base-X (SFP)	4x 10/100/1000Base-T/ 1000Base-X (SFP)
Console	RS232	RS232	RS232
Performance	8.8 Gbps	12.8 Gbps	56 Gbps
MAC-addresses table	16K	16K	16K
VLAN table	4K	4K	4K
ACL table	1K	1K	1K
Jumbo frame	10K	10K	10K
<b>Physical and environmental parameters</b>			
Noise level	0 dB	0 dB	0 dB
Power supply: voltage consumption	220 V, 50 Hz Max 25 W	220 V, 50 Hz Max 25 W	220 V, 50 Hz Max 25 W
Dimensions	430 x 44 x 138 mm	430 x 44 x 138 mm	430 x 44 x 138 mm
Fans	passive	passive	passive
Temperature:			
Operating	-10 to +45 °C	-10 to +45 °C	-10 to +45 °C
Storage	-40 to +70 °C	-40 to +70 °C	-40 to +70 °C
Humidity	<80 %	<80 %	<80 %

## Functionality:

### Interface functions:

Head-of-line blocking (HOL) protection - Virtual Output Queues  
Support Back pressure  
Support MDI / MDIX  
Support Jumbo frames  
Flow Control (IEEE 802.3X)  
Port mirroring  
Stackable up to 4 switches

### MAC addresses functionality:

MAC-address table 16K  
Independent learning mode in each VLAN  
MAC Multicast Support  
Adjustable storage time MAC-addresses  
Static MAC Entries

### VLAN support:

Up to 4K VLAN  
Support Default VLAN  
Support Voice VLAN  
VLAN mirroring  
Support 802.1Q  
Support Q-in-Q  
Support Selective Q-in-Q  
Support GVRP

### Function L2 Multicast:

Support 1K groups  
Multicast-profile support  
Support static Multicast groups  
Support IGMP Snooping v1, 2,3  
Support IGMP snooping Fast Leave on the basis of the port / host  
Support IGMP snooping host-based Fast Leave  
Support MLD Snooping v1, 2  
Support IGMP Querier  
Multicast TV VLAN

### Functions L2:

STP protocol support (Spanning Tree Protocol)  
Support Spanning Tree Fast Link option  
Support Per-device Spanning Tree (802.1d)  
Support RSTP (Rapid spanning tree protocol)  
Support Multiple Spanning Tree-MSTP (IEEE802.1s)  
Support EAPS  
Support STP Root Guard  
Support BPDU Filtering  
Support STP BPDU Guard  
Support Per-device Loopback Detection (LBD)  
Support Ethernet OAM  
Support ULDP (Discovery Protocol unidirectional links)  
Support Ethernet CFM  
Support G.8032 v2

### Link Aggregation Functions:

LAG groups establishment  
Aggregation using LACP  
Support LAG Balancing Algorithm

### Support for IPv6:

Functionality IPv6 Host  
Common use of IPv4, IPv6  
ISATAP tunneling

### CoS based on:

- Switch Port
- 802.1p Priority Queues
- VLAN ID
- MAC address
- Ether type
- TOS
- DSCP
- Type of protocol
- TCP / UDP port
- IPv6 Traffic Class
- IPv6 flow label
- Contents of the package, user-defined
- Set the 802.1p priority tags
- Add a tag TOS

### OAM

802.3ah Ethernet Link OAM  
Dying Gasp  
802.1ag Connectivity Fault Management (CFM)  
802.3ah Unidirectional Link Detection (DULD)

### Main management functions:

Web based management  
Downloading and uploading of the configuration file via the TFTP  
SNMP protocol  
Command Line Interface (CLI)  
Syslog  
SNTP (Simple Network Time Protocol)  
Traceroute  
LLDP (802.1ab) + LLDP MED  
Controlled access - levels of authorization and privilege  
Blocking access to the control interface  
Local authentication  
IP-address filtering for SNMP  
RADIUS TACACS+ client  
(Remote Authentication Dial In User Service, Terminal Access Controller Access-Control System)  
SSH server  
SSL support  
Support of macro commands  
System log  
Automatic DHCP configuration  
DHCP Relay (Supports IPv4)  
DHCP Option 12  
DHCP Relay Option 82  
adding ID tag - PPPoE Circuit  
Flash File System  
Memory monitoring  
Debug commands  
Password Encryption  
Password Recovery  
Ping (support IPv4/v61)  
Multiple IP Interface  
FTP server

### Service functions:

Virtual Cable Testing (VCT)  
Optical transceiver diagnostics  
Green Ethernet

- Weighted Round Robin (WRR)
- Strict + WRR

Three color marking

**Security features:**

DHCP snooping  
 Option 82 of DHCP protocol  
 IP Source address guard  
 Dynamic ARP Inspection (Protection)  
 Supports Flow  
 Authentication checking based on MAC addresses, limiting the number of MAC addresses, static MAC address  
 Authentication by port based on 802.1x  
 Support Time-Based 802.1x  
 Guest VLAN  
 DoS attack prevention system  
 Traffic segmentation  
 Protection from unauthorized DHCP servers  
 Filtering of DHCP clients  
 BPDU attack prevention  
 NetBIOS / NetBEUI filtering  
 PPPoE Intermediate agent

**ACL (Access Control Lists)**

Up to 1024 rules  
 L2-L3-L4 ACL (Access Control List)  
 IPv6 ACL  
 Dynamic ACL  
 Time-Based ACL  
 ACL on the basis of
 

- switch port
- 802.1p priority
- VLAN ID
- Ether type
- DSCP
- Type of protocol
- Number of TCP / UDP port
- Class of traffic IPv6
- IPv6 flow label
- Package contents defined by user

Statistics ACL  
 CPU interface filtering

**Basic functions of Quality of Service (QoS) and bandwidth limitation:**

Support QoS / COS  
 Statistics QoS  
 Bandwidth limitation on ports (shaping, policing)  
 Support up to 4 priority queues  
 Support 802.1p Class of Service  
 Broadcast "storm" protection  
 Bandwidth Management  
 DSCP:
 

- processing queues
- Strict Priority



**Monitoring functions:**

Interface Statistics  
 Remote monitoring RMON / SMON  
 Support mechanism CPU utilization  
 Monitoring of CPU  
 Monitoring of temperature  
 Monitoring TCAM

**MIB**

RFC 1065, 1066, 1155, 1156, 2578 MIB Structure  
 RFC 1901, 1908, 3418, 3636, 1442, 2578 SNMP v2 MIB:  
 RFC 271, 1757, 2819 RMON MIB  
 RFC 2465 IPv6 MIB  
 RFC 2466 ICMPv6 MIB  
 RFC 2737 Entity MIB  
 RFC 4293 IPv6 SNMP Mgmt interface MIB  
 Private MIB  
 RFC 1212 Concise MIB Definitions  
 RFC 1213 MIB II  
 RFC 1215 MIB Traps Convention  
 RFC 1493 Bridge MIB 4188  
 RFC 1157, 2571-2576 SNMP MIB  
 RFC 3289 DIFFSERV MIB  
 RFC 2021 RMONv2 MIB  
 RFC 1398, 1643, 1650, 2358, 2665, 3635 EtherLike MIB  
 RFC 2668 802.3 MAU MIB  
 RFC 2674, 4363 802.1p MIB  
 RFC 2233, 2863 IF MIB  
 RFC 2618 RADIUS Authentication Client MIB  
 RFC 4022 MIB for TCP  
 RFC 4113 MIB for UDP  
 RFC 3298 MIB for Diffserv  
 RFC 2620 RADIUS Accounting Client MIB  
 RFC 2925 Ping & Traceroute MIB  
 RFC 768 UDP  
 RFC 791 IP  
 RFC 792 ICMPv4  
 RFC 2463, 4443 ICMPv6  
 RFC 4884 Extended ICMP messages of support for Multi-Part  
 RFC 793 TCP  
 RFC 2474, 3260 Definition of the DS field in the IPv4 and IPv6 header  
 RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)  
 RFC 2571, RFC2572, RFC2573, RFC2574 SNMP  
 RFC 826 ARP

**Ordering Code:**

Part number	Configuration	Picture
MES1024-AC	24x ports 10/100Base-T 2x combo ports 10/100/1000Base-T/1000Base-X (SFP) L2 switch, 220 V AC	
MES1124-AC	24x ports 10/100Base-T 4x combo ports 10/100/1000Base-T/1000Base-X (SFP) L2 switch, 220 V AC	
MES2124-AC	24x ports 10/100/1000Base-T 4x combo ports 10/100/1000Base-T/1000Base-X (SFP) L2 switch, 220 V AC	