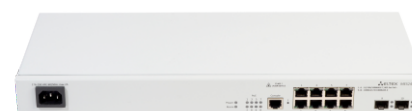


- **Advanced L2 features**
- **Support for Multicast (IGMP Snooping, MVR)**
- **Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)**

MES2408x series switches provide end users connection to networks of large enterprises, small and mid-sized businesses and service providers via 1G/10G interfaces.

The switches support Virtual Local Area Networks (VLAN), multicast groups, and have advanced security functions.



MES2408P



MES2428P



MES2408CP



MES2448P

Technical features

	MES2408CP	MES2408P	MES2408PL	MES2428P	MES2424P	MES2448P
Interfaces						
10/100/1000BASE-T PoE/PoE+	8	8	8	24	24	48
100BASE-FX/1000BASE-X (SFP)	–	2	2	–	–	–
1000BASE-X (SFP)/10GBASE-R (SFP+)	–	–	–	–	4	4
Combo 10/100/1000BASE-T/100BASE-FX/1000BASE-X	2	–	–	4	–	–
Console port RS-232 (RJ-45)				1		
Performance						
Bandwidth	20 Gbps			56 Gbps	128 Gbps	176 Gbps
Throughput on 64-byte packets ¹	14.88 MPPS			41.658 MPPS	95.2 MPPS	130.9 MPPS
Buffer memory	512 KB				1.5 MB	2 MB
RAM (DDR3)	256 MB				512 MB	
ROM (SPI Flash)	32 MB				64 MB	
MAC table	8192				16384	32768
ARP table				1000		
VLAN table				4094		
L2 Multicast groups (IGMP Snooping)	509				1023	4094
SQinQ rules	128 (ingress)/256 (egress)				384 (ingress)/512 (egress)	768 (ingress)/1024 (egress)
MAC ACL rules	381				509	766

¹Values are given for one-way transmission

Technical features (continuation)

	MES2408CP	MES2408P	MES2408PL	MES2428P	MES2424P	MES2448P
IPv4/IPv6 ACL rules	219/128			384/192		640/320
L3 interfaces	8 vlan, up to 5 of IPv4 addresses for each VLAN, up to 300 IPv6 GUA for all vlan in summary					
Link Aggregation Groups (LAG)	8 groups, up to 8 ports in one LAG				24 groups, up to 8 ports in one LAG	
QoS	8 output queues priorities per port					
Jumbo frames	10000 bytes				12288 bytes	

Features and capabilities

Interface features

- Head-of-line blocking (HOL) protection
- Auto MDI/MDIX
- Jumbo frames
- Flow Control (IEEE 802.3X)
- Port mirroring (SPAN, RSPAN)

MAC table

- Independent learning mode on each VLAN
- MAC Multicast Support
- Configurable aging time of MAC addresses
- Static MAC Entries
- MAC change events monitoring per ports
- Логирование событий MAC Flapping

VLAN features

- IEEE 802.1Q
- Q-in-Q
- Selective Q-in-Q
- GVRP
- MAC-based VLAN
- Protocol-based VLAN

L2 Multicast features

- Multicast profiles
- Static Multicast groups
- IGMP Snooping v1,2,3
- IGMP Snooping fast-leave
- IGMP proxy-report
- IGMP authorization via RADIUS
- MLD Snooping v1,2
- MLD Snooping fast-leave
- IGMP Querier
- MVR

L2 features

- STP (Spanning Tree Protocol, IEEE 802.1d)
- RSTP (Rapid Spanning Tree Protocol, IEEE 802.1w)
- MSTP (Multiple Spanning Tree Protocol, IEEE 802.1s)
- STP Root Guard
- STP Loop Guard
- STP BPDU Guard
- BPDU Filtering
- Spanning Tree Fast Link option
- Layer 2 Protocol Tunneling (L2PT)
- Loopback Detection (LBD)
- Port isolation
- Storm Control for different types of traffic (broadcast, multicast, unknown unicast)

Link Aggregation functions

- LAG creating
- Dynamic LAG LACP
- LAG Balancing Algorithm

Service functions

- Virtual Cable Testing (VCT)
- Optical transceiver diagnostics

IPv6 support

- IPv6 Host
- Dual-stack IPv4, IPv6

Security functions

- DHCP Snooping
- DHCP Option 82
- IP Source Guard
- Dynamic ARP Inspection (Protection)
- MAC-based authentication, Port Security, static MAC entries
- IEEE 802.1x based interface authentication
- DoS attacks prevention
- Traffic segmentation
- DHCP clients filtering
- BPDU attacks prevention
- PPPoE Intermediate agent
- DHCPv6 Snooping
- IPv6 Source Guard
- IPv6 ND Inspection
- IPv6 RA Guard

Access control lists ACL

- L2-L3-L4 ACL (Access Control List)
- IPv6 ACL
- ACL based on:
 - Switch port
 - IEEE 802.1p
 - VLAN ID
 - EtherType
 - DSCP
 - IP type
 - TCP/UDP port number
 - User Defined Bytes

Quality of service (QoS) and shaping

- Shaping, policing
- Support for IEEE 802.1p Class of Service
- Scheduling algorithms: Strict Priority/Weighted Round Robin (WRR)
- ACL-based traffic classification
- ACL-based CoS/DSCP marking
- DSCP to CoS remarking
- CoS to DSCP remarking
- ACL-based VLAN assignment

OAM

- IEEE 802.3ah, Ethernet OAM
- Dying Gasp
- IEEE 802.3ah Unidirectional Link Detection (UDLD)

Features and capabilities (continuation)

Main management functions

- Download and upload of configuration file via TFTP/SFTP
- Automated backup of configuration file via TFTP/SFTP
- Simple Network Management Protocol (SNMP)
- Command Line Interface (CLI)
- Web interface
- Syslog
- SNTP (Simple Network Time Protocol)
- Traceroute
- LLDP (IEEE 802.1ab) + LLDP MED
- Two 802.1Q headers traffic control
- Input commands authorization via TACACS+
- IPv4/IPv6 ACL support for device control
- Access management – privilege levels for users
- Management interface blocking
- Local authentication
- IP addresses filtering for SNMP
- RADIUS and TACACS+ clients (Terminal Access Controller Access Control System)
- Telnet client, SSH client
- Telnet server, SSH server
- Macro commands
- Input commands logging via TACACS+
- DHCP autoprovision
- DHCP Relay (support for IPv4)
- DHCP Relay Option 82
- PPPoE Circuit-ID tag adding
- Flash File System
- Debugging commands
- Limiting of traffic to CPU
- Password encryption
- Ping (support for IPv4/IPv6)
- IPv4/IPv6 static routes support
- Support for several versions of configuration file

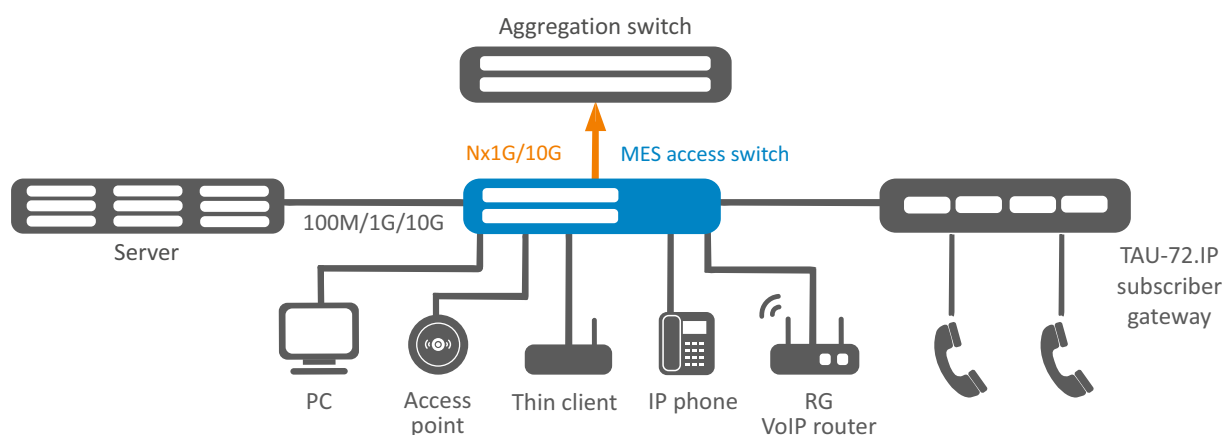
Monitoring functions

- Interface statistics
- CPU utilization monitoring per task and per queue
- RAM utilization monitoring
- Temperature monitoring
- TCAM monitoring

MIB/IETF

- RFC 1065, 1066, 1155, 1156, 2578 MIB Structure
- RFC 1212 Concise MIB Definitions
- RFC 1213 MIB II
- RFC 1215 MIB Traps Convention
- RFC 1493, 4188 Bridge MIB
- RFC 1157, 2571-2576 SNMP MIB
- RFC 1901-1908, 3418, 3636, 1442, 2578 SNMPv2 MIB
- RFC 2465 IPv6 MIB
- RFC 2737 Entity MIB
- RFC 4293 IPv6 SNMP Mgmt Interface MIB
- Private MIB
- RFC 1398, 1643, 1650, 2358, 2665, 3635 Ether-like 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 3289 MIB for Diffserv
- RFC 2620 RADIUS Accounting Client MIB
- RFC 768 UDP
- RFC 791 IP
- RFC 792 ICMPv4
- RFC 2463, 4443 ICMPv6
- RFC 793 TCP
- RFC 2474, 3260 Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers
- RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)
- RFC 2571, RFC 2572, RFC 2573, RFC 2574 SNMP
- RFC 826 ARP
- RFC 854 Telnet

Use case



Physical parameters

	MES2408CP	MES2408P	MES2408PL	MES2428P AC	MES2428P DC	MES2424P	MES2448P	
Physical specifications and environmental parameters								
Power supply	110–250 V AC, 50–60 Hz	176–250 V AC, 50–60 Hz or 36–72 V DC	110–250 V AC, 50–60 Hz	170–264 V AC, 50–60 Hz	36–72 V DC	176-264 V AC, 50–60 Hz	176-264 V AC, 50-60 Hz	
Maximum power consumption (including PoE)	160 W	280 W	93 W	420 W	450 W	420 W	820 W	
PoE budget	120 W	240 W	65 W	370 W	370 W	370 W	720 W	
Hardware support for Dying Gasp	yes	no	no	yes	no	yes	no	
Operating temperature ¹	from -20 to +50 °C						from -10 to +50 °C	
Storage temperature	from -40 to +70 °C							
Cooling	passive	passive	passive	2 fans			4 fans	
Operating humidity	no more than 80%							
Form factor	19", 1U							
Dimensions (WxHxD),mm	310x44x177	430x44x178	310x44x177	430x44x204	430x44x305	430x44x225	440x44x447	
Weight	2.16 kg	2.69 kg	1.9 kg	3.27 kg		3.36 kg	7.46 kg	

Ordering information


Name	Description
MES2408CP	MES2408CP Ethernet switch, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 2 Combo ports of 10/100/1000BASE-T/100BASE-FX/1000BASE-X, L2, 110–250 V AC
MES2408P AC	MES2408P AC Ethernet switch, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 2 ports of 100BASE-FX/1000BASE-X, L2, 176–250 V AC
MES2408P DC	MES2408P DC Ethernet switch, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 2 ports of 100BASE-FX/1000BASE-X, L2, 36–72 V DC
MES2408PL	MES2408PL Ethernet switch, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 2 ports of 100BASE-FX/1000BASE-X, L2, 110–250 V AC
MES2428P AC	MES2428P AC Ethernet switch, 24 ports of 10/100/1000BASE-T (PoE/PoE+), 4 Combo ports of 10/100/1000BASE-T/100BASE-FX/1000BASE-X, L2, 170–264 V AC
MES2428P DC	MES2428P DC Ethernet switch, 24 ports of 10/100/1000BASE-T (PoE/PoE+), 4 Combo ports of 10/100/1000BASE-T/100BASE-FX/1000BASE-X, L2, 36–72 V DC
MES2424P	MES2424P Ethernet switch, 24 ports of 10/100/1000BASE-T (PoE/PoE+), 4 ports of 1000BASE-X/10GBASE-R, L2, 176-264 V AC
MES2448P	MES2448P Ethernet switch, 48 ports of 10/100/1000BASE-T (PoE/PoE+), 4 ports of 1000BASE-X/10GBASE-R, L2, 176-264 V AC

Related products

PM380-220/56	PM380-220/56 power module , 176-264 V AC, 380 W
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¹For MES2408CP and MES2408P DC: when using commercial SFP transceivers, the ambient temperature should not exceed +45 °C

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About ELTEX

ELTEX Enterprise is a leading Russian developer and manufacturer of communications equipment with 30 years of history. Complete solutions and their seamless integrability into Customer's infrastructure are the priority growth areas of the company.