ELTEX
Integrated networking solutions

— **Advanced L2 features**

— **Support for Multicast (IGMP Snooping, MVR)**

— **Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)**

MES2408P

MES2428P

MES2408CP

MES24xx series switches with PoE support 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.

Technical features

	MES2408CP	MES2408P CE	MES2408PL	MES2428P CE	MES2424P CE	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	20 Gbps	20 Gbps	56 Gbps	128 Gbps	176 Gbps
Throughput for 64-byte packets[1]	14.88 MPPS	14.88 MPPS	14.88 MPPS	41.658 MPPS	95.2 MPPS	130.9 MPPS
Buffer memory	512 KB	512 KB	512 KB	512 KB	1.5 MB	2 MB
RAM (DDR3)	256 MB	256 MB	256 MB	256 MB	512 MB	512 MB
ROM (SPI Flash)	32 MB	32 MB	32 MB	32 MB	64 MB	64 MB
MAC table	8192	8192	8192	8192	16384	32768
ARP table	1000					
VLAN table	4094					
L2 Multicast groups (IGMP Snooping)	509	509	509	509	1023	4094
L3 Multicast groups (IGMP Proxy)	-	-	-	-	512	2048
SQinQ rules	128 (ingress)/ 256 (egress)	128 (ingress)/ 256 (egress)	128 (ingress)/ 256 (egress)	128 (ingress)/ 256 (egress)	384 (ingress)/ 512 (egress)	768 (ingress)/ 1024 (egress)
MAC ACL rules	381	381	381	381	509	766

[1]Values are given for one-way transmission.

CE — the device complies with CE requirements.

Technical features (continued)

	MES2408CP	MES2408P	MES2408PL	MES2428P	MES2424P	MES2448P
IPv4/IPv6 ACL rules	219/128	219/128	219/128	219/128	384/192	640/320
L3 interfaces	8 VLANs, up to 5 of IPv4 addresses for each VLAN, up to 300 IPv6 GUA for all VLANs 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 egress queues per port					
Jumbo frames	max. packet size is 10000 bytes				max. packet size is 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
— 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 reporting
— IGMP authorization via RADIUS
— MLD Snooping v1,2[1]
— MLD Snooping fast-leave[1]
— 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)
— ERPS (G.8032v2)[2]

L3 Multicast features[1]
— IGMP proxy (RFC 4605)
— IGMP proxy fast-leave

Link Aggregation functions
— Static LAG
— Dynamic LAG
— LAG Balancing Algorithm

Service functions
— Virtual Cable Test (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 addresses
— IEEE 802.1x based authentication per ports
— 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

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[1] Not supported by MES2448P current firmware version.
[2] Only for MES2424P, MES2448P.

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 protocol type
    — TCP/UDP port number
    — User Defined Bytes

Quality of service (QoS) and rate limiting
— Shaping, policing
— Support for IEEE 802.1p Class of Service
— Queue 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)

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
— Commands Authorization using TACACS+ server
— IPv4/IPv6 ACL support for device control
— Switch access management – privilege levels for users
— Management interface blocking
— Local authentication
— IP addresses filtering for SNMP
— RADIUS and TACACS+ (Terminal Access Controller Access Control System) clients
— Telnet client, SSH client
— Telnet server, SSH server
— Macro commands

[1]Only for MES2424P, MES2448P.

— Input commands logging via TACACS+ protocol
— DHCP auto configuration
— DHCP Relay (IPv4 support)
— DHCP Relay Option 82
— DHCP server[1]
— PPPoE Circuit-ID tag adding
— Flash File System
— Debug commands
— CPU traffic limiting
— Password encryption
— Ping (IPv4/IPv6 support)
— IPv4/IPv6 static routing
— Support for several versions of configuration file
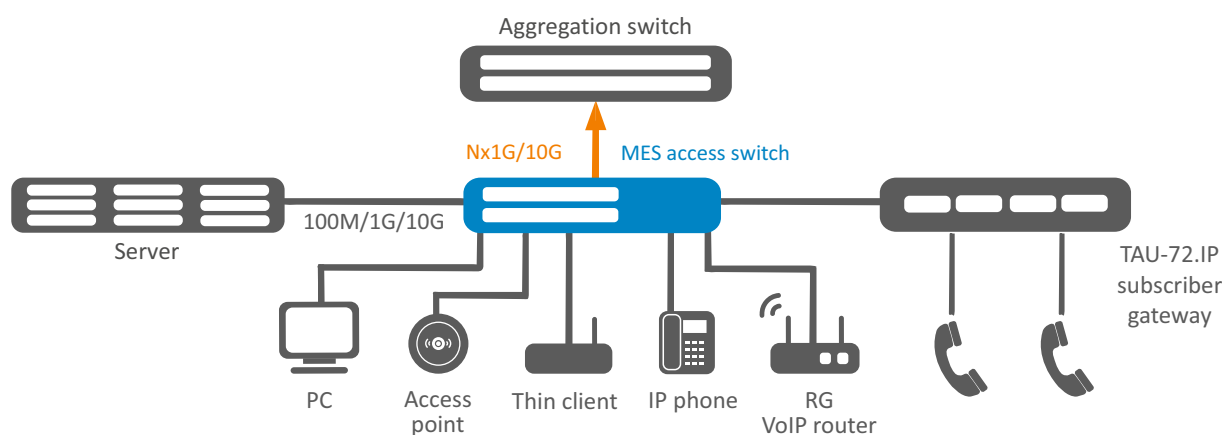
Monitoring functions
— Interface statistics
— CPU utilization monitoring per task and per queue
— RAM usage monitoring
— Temperature monitoring
— TCAM monitoring

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 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
— IEC 61850

ELTEX
Integrated networking solutions

Use case

Aggregation switch

Nx1G/10G

MES access switch

100M/1G/10G

Server

PC

Access point

Thin client

IP phone

RG VoIP router

TAU-72.IP subscriber gateway

Physical parameters

	MES2408CP	MES2408P CE	MES2408PL	MES2428P AC CE	MES2428P DC CE	MES2424P CE	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	176–264 V AC, 50–60 Hz	36–72 V DC	176–264 V AC, 50–60 Hz	176–264 V AC, 50–60 Hz
Input current	1.4 A–0.6 A	1.6 A–1.1 A 7.8 A–3.9 A	0.8 A–0.4A	2.4 A–1.6A	12.5 A–6.3 A	2.4 A–1.6 A	4.7 A–3.2 A
Maximum power consumption (including PoE)	150 W	275 W AC 280 W DC	80 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
Heat dissipation	30 W	35 W AC 40 W DC	15 W	50 W	80 W	50 W	–
Hardware support for Dying Gasp	yes	no	no	yes	no	yes	no
Operating temperature[1]	-20 to +50 °C	-20 to +50 °C	-20 to +50 °C	-20 to +50 °C	-20 to +50 °C	-20 to +50 °C	-10 to +50 °C
Storage temperature	from -40 to +70 °C						
Cooling	passive	passive	passive	2 fans	2 fans	2 fans	4 fans
Operating humidity	no more than 80%						
Form factor	19", 1U						
Dimensions (W × H × D), mm	310 × 44 × 177	430 × 44 × 178	310 × 44 × 177	430 × 44 × 204	430 × 44 × 305	430 × 44 × 225	440 × 44 × 447
Weight	2.16 kg	2.69 kg	1.9 kg	3.27 kg	3.27 kg	3.36 kg	7.46 kg

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[1]For MES2408CP and MES2408P DC: when operating devices at temperatures above 45 °C it is necessary to use industrial SFP transceivers.

CE — the device complies with CE requirements.

Ordering information

Name	Description
MES2408CP	Ethernet switch MES2408CP, 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	Ethernet switch MES2408P AC, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 2 ports of 100BASE-FX/1000BASE-X, L2, 176–250 V AC
MES2408P DC	Ethernet switch MES2408P DC, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 2 ports of 100BASE-FX/1000BASE-X, L2, 36–72 V DC
MES2408PL	Ethernet switch MES2408PL, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 2 ports of 100BASE-FX/1000BASE-X, L2, 110–250 V AC
MES2428P AC	Ethernet switch MES2428P AC, 24 ports of 10/100/1000BASE-T (PoE/PoE+), 4 Combo ports of 10/100/1000BASE-T/100BASE-FX/1000BASE-X, L2, 176–264 V AC
MES2428P DC	Ethernet switch MES2428P DC, 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	Ethernet switch MES2424P, 24 ports of 10/100/1000BASE-T (PoE/PoE+), 4 ports of 1000BASE-X/10GBASE-R, L2, 176–264 V AC
MES2448P	Ethernet switch MES2448P, 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	Power module PM380-220/56, 176–264 V AC, 380 W
Related software	
ECCM-MES2408CP	ECCM-MES2408CP option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES2408CP
ECCM-MES2408P	ECCM-MES2408P option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES2408P
ECCM-MES2408P_DC	ECCM-MES2408P_DC option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES2408P_DC
ECCM-MES2408PL	ECCM-MES2408PL option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES2408PL
ECCM-MES2428P_AC	ECCM-MES2428P_AC option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES2428P_AC
ECCM-MES2428P_DC	ECCM-MES2428P_DC option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES2428P_DC
ECCM-MES2424P	ECCM-MES2424P option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES2424P
ECCM-MES2448P	ECCM-MES2448P option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES2448P