

- Throughput capacity 176 Gbps
- Non-blocking switching fabric
- L3 functions
- Stacking support
- Multicast support (IGMP Snooping, MVR)
- Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)

The switches are designed to connect end users to large-scale corporate networks, small and medium business networks and to service provider networks using 1G/10G Ethernet interfaces.

The switches support physical stacking, VLANs, multicast groups and advanced security functions.

The switches comply with CE requirements.



MES2308P



MES2324P



MES2348P

Technical features

	MES2308P AC	MES2308P DC	MES2324P AC	MES2324P DC	MES2348P
Common parameters					
Packet processor	Marvell 98DX3233		Marvell 98DX3236-A1 (AlleyCat3)		Marvell 2x98DX3236-A1 (AlleyCat3)
Interfaces					
10/100/1000BASE-T (RJ-45) PoE/PoE+	8	8	24	24	48
10/100/1000BASE-T (RJ-45)	2	2	—	—	—
1000BASE-X (SFP)	2	2	—	—	—
10GBASE-R (SFP+)/1000BASE-X (SFP)	—	—	4	4	4
Console port RS-232 (RJ-45)	1				
Performance					
Bandwidth	24 Gbps		128 Gbps		176 Gbps
Throughput for 64 bytes ¹	17,7 MPPS		93,1 MPPS		130,9 MPPS
Buffer memory	1,5 MB				3 MB
RAM (DDR3)	512 MB				
ROM (RAW NAND)	512 MB				
MAC table	16K				
VLAN table	4094				
L2 Multicast groups	2K				
ARP table ²	820				
Link Aggregation Groups (LAG)	48, up to 8 ports per LAG				
Maximum size of ECMP groups	8				
Quality of Service (QoS)	8 egress queues per port				

¹ Values are given for 1-way transmission

² For each host in the ARP table, an entry is created in the routing table

Technical features (continuation)

	MES2308P AC	MES2308P DC	MES2324P AC	MES2324P DC	MES2348P
Number of ACL rules			958		
L3 IPv4 Unicast ¹			818		
L3 IPv6 Unicast ¹			210		
L3 IPv4 Multicast (IGMP Proxy, PIM) ¹			412		
L3 IPv6 Multicast (IGMP Proxy, PIM) ¹			103		
Jumbo frames size			10 240 bytes		
Stacking			8 devices		

Features and capabilities

Interfaces functions

- Head-of-line blocking (HOL) protection
- Back Pressure
- Auto MDI/MDIX
- Jumbo Frames
- Flow control (IEEE 802.3X)
- Port Mirroring

MAC table functions

- Independent learning mode per VLAN
- MAC Multicast Support
- Configurable aging time of MAC addresses
- Static MAC Entries
- MAC Flapping logging

VLAN functions

- Voice VLAN
- 802.1Q
- Q-in-Q
- Selective Q-in-Q
- GVRP

L2 Multicast functions

- Multicast profiles
- Static Multicast groups
- IGMP Snooping v1,2,3
- Port/host-based IGMP Snooping Fast Leave
- Pim-Snooping
- IGMP proxy-report
- IGMP authorization via RADIUS
- MLD Snooping v1,2
- IGMP Querier
- MVR

L2 functions

- STP (Spanning Tree Protocol, IEEE 802.1d)
- RSTP (Rapid Spanning Tree Protocol, IEEE 802.1w)
- MSTP (Multiple Spanning Tree Protocol, IEEE 802.1s)
- STP Multiprocess
- PVSTP+
- RPVSTP+
- Spanning Tree Fast Link option
- STP Root Guard
- STP Loop Guard
- BPDU Filtering
- STP BPDU Guard
- VLAN-based Loopback Detection (LBD)
- ERPS (G.8032v2)

- Flex-link
- Private VLAN, Private VLAN Trunk
- Layer 2 Protocol Tunneling (L2PT)

L3 functions

- Static IP routes
- Dynamic routing protocols RIPv2, OSPFv2, OSPFv3, IS-IS, BGP²
- BFD
- Address Resolution Protocol (ARP)
- Proxy ARP
- Policy-Based Routing (IPv4)
- VRRP
- PIM SM, PIM DM, IGMP Proxy, MSDP
- ECMP Load Balancing
- IP Unnumbered

Link Aggregation functions

- Static LAG
- Dynamic LAG (LACP)
- LAG Balancing Algorithm
- Multi-Switch Link Aggregation Group (MLAG)

IPv6 functions

- IPv6 Host
- Dual-stack

Service functions

- Virtual Cable Testing (VCT)
- Optical transceiver diagnostics
- Green Ethernet

Security functions

- DHCP Snooping
- DHCP Option 82
- IP Source Guard
- Dynamic ARP Inspection
- First Hop Security
- sFlow
- MAC-based authentication, Port Security, Static MAC entries
- Port-based authentication IEEE 802.1x
- Guest VLAN
- DoS attack prevention
- Traffic segmentation
- Protection against non-authorized DHCP servers
- DHCP clients filtering
- BPDU attacks prevention
- NetBIOS/NetBEUI filtering
- PPPoE Intermediate Agent

¹ IPv4/IPv6 Unicast/Multicast routes share hardware resources

² BGP protocol support is provided under license

Features and capabilities

ACL (Access Control Lists)

- L2-L3-L4 ACL
- Time-Based ACL
- IPv6 ACL
- ACL based on:
 - Physical port number
 - IEEE 802.1p
 - VLAN ID
 - EtherType
 - DSCP
 - Protocol type
 - TCP/UDP port number
 - User Defined Bytes

Quality of Service (QoS) and rate limiting

- QoS statistics
- Shaping, Policing
- IEEE 802.1p Class of Service (CoS)
- Storm Control for different types of traffic (broadcast, multicast, unknown unicast)
- Bandwidth management
- Scheduling algorithms: Strict Priority/Weighted Round Robin (WRR)
- Three marking colors
- ACL-based CoS/DSCP mark assignment
- Setting the IEEE 802.1p priority for management VLAN
- DSCP to CoS/CoS to DSCP remarking
- ACL-based VLAN assignment
- 802.1p, DSCP mark assignment for IGMP

OAM/CFM

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

Management functions

- Download and upload of configuration file via TFTP/SCP
- Redirecting the output of CLI commands to an arbitrary file on ROM
- SNMP
- Command Line Interface (CLI)
- Web interface
- Syslog
- NTP (Simple Network Time Protocol)
- Traceroute
- LLDP (802.1ab) + LLDP MED
- Access control – privilege levels
- Management interface blocking
- Local authentication
- IP addresses filtering for SNMP
- RADIUS and TACACS+ (Terminal Access Controller Access Control System) clients
- Charge of Authorization (CoA)
- Telnet server, SSH server
- Telnet client, SSH client
- Remote start of commands via SSH
- SSL
- Macrocommands
- CLI commands logging
- System log
- DHCP autoprovision
- DHCP Relay (Option 82)
- DHCP Option 12
- DHCPv6 Relay, DHCPv6 LDRA (Option 18, 37)

- PPPoE Circuit-ID tag
- Flash File System
- Debugging commands
- Rate limit of traffic to CPU
- Password encryption
- Password recovery
- Ping (IPv4/IPv6 support)
- DNS server (Resolver)

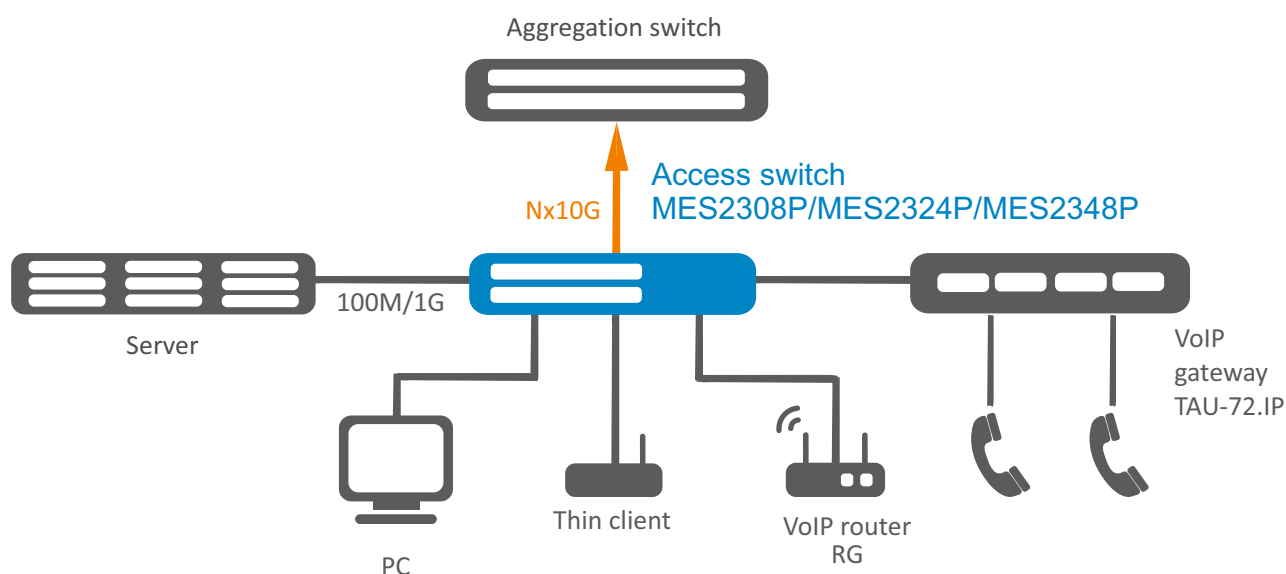
Monitoring functions

- Statistics on interfaces
- RMON/SMON
- IP SLA
- CPU utilization monitoring per task and per traffic type
- RAM utilization monitoring
- Temperature monitoring
- TCAM utilization monitoring

MIB

- 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 1271, 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 3289 DIFFSERV MIB
- RFC 2021 RMONv2 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 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 or Multi-Part messages support
- RFC 793 TCP
- RFC 2474, 3260 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
- RFC 854 Telnet




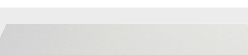

Use Case



Physical parameters

	MES2308P AC	MES2308P DC	MES2324P AC	MES2324P DC	MES2348P
Physical parameters and parameters of environment					
Maximum power consumption (including PoE)	270 W		410 W		1600 W
PoE budget	240 W		380 W		1450 W
Power supply	170–265 V AC, 50–60 Hz	36–72 V DC	170–265 V AC, 50–60 Hz	36–72 V DC	100–240 V AC, 50–60 Hz (up to 2 hot-swappable power supplies)
Input current	1.58–1.02 A	7.5–3.75 A	2.41–1.55 A	11.4–5.69 A	16.0–6.67 A
Operating temperature	from -20 to +50°C	from -20 to +45°C	from -20 to +50°C	from -20 to +50°C	from -10 to +50°C
Storage temperature	from -50 to +70°C				
Operating humidity	no more than 80%				
Cooling	passive cooling		2 fans	2 fans	4 fans
Form factor	19", 1U				
Dimensions (WxHxD)	430x44x158 mm		440x44x203 mm		440x44x490 mm
Weight	2.55 kg	2.35 kg	3.16 kg	4.02 kg	9.55 kg


Ordering information

Name	Description	Image
MES2308P AC	MES2308P Ethernet switch, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 2 ports of 1000BASE-X, 2 ports of 10/100/1000BASE-T, L3, 170–264 V AC	
MES2308P DC	MES2308P Ethernet switch, 8 ports of 10/100/1000BASE-T (PoE/PoE+), 2 ports of 1000BASE-X, 2 ports of 10/100/1000BASE-T, L3, 36–72 V DC	
MES2324P AC	MES2324P Ethernet switch, 24 ports of 10/100/1000BASE-T (RJ-45) with PoE/PoE+ support, 4 ports of 10GBASE-R (SFP+)/1000BASE-X (SFP), L3, 170–264 V AC	
MES2324P DC	MES2324P Ethernet switch, 24 ports of 10/100/1000BASE-T (RJ-45) with PoE/PoE+ support, 4 ports of 10GBASE-R (SFP+)/1000BASE-X (SFP), L3, 36–72 V DC	
MES2348P	MES2348P Ethernet switch, 48 ports of 10/100/1000BASE-T (RJ-45) with PoE/PoE+ support, 4 ports of 10GBASE-R(SFP+)/1000BASE-X (SFP), L3, 100–240 V AC, two slots for power supply modules	

Related software

EMS-MES-access	EMS-MES-access option of Eltex.EMS system for ELTEX network elements management and monitoring: 1 network element is an aggregation switch	
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About ELTEX

ELTEX company is a leading Russian developer and manufacturer of telecommunication equipment with more than 25 years of history. Integrity of solutions and seamless integration capability into Customer infrastructure is a priority area of company development.