

- Bandwidth up to 640 Gbps
- Non-blocking architecture
- Up to 32 ports of 10G
- L3 switches
- Front-to-Back cooling
- Stacking up to 8 devices
- Hot-swappable redundant power supplies

MES5312, MES5316A, MES5324A, MES5332A switches are high performance devices with 10GBASE-R/1000BASE-X interfaces that can be used as aggregation switches in carrier networks and data centers.

The device's ports support operation at rates of 1 Gbps (SFP) and 10 Gbps (SFP+), that provides usage flexibility and ability of gradual transition to higher data rates. The non-blocking architecture guarantees lossless packet forwarding at wire speed with minimum and predictable delays for all types of traffic.

The front-to-back cooling provides effective cooldown in modern data centers.

The redundant and hot-swappable fans and AC/DC power supplies along with advanced hardware monitoring functions provide high reliability and ensure uninterrupted operation of the carrier networks.



MES5312



MES5316A







MES5324A



MES5332A

Technical features

	MES5312 	MES5316A 	MES5324A 	MES5332A 
General parameters				
Packet processor	Marvell 98DX8212	Marvell 98DX8316	Marvell 98DX8324	Marvell 98DX8332
Interfaces				
10/100/1000BASE-T (OOB)	1			
10GBASE-R (SFP+)/1000BASE-X (SFP)	12	16	24	32
Console port RS-232 (RJ-45)	1			
Performance				
Bandwidth	240 Gbps	320 Gbps	480 Gbps	640 Gbps
Throughput for 64 bytes	178 MPPS	238 MPPS	238 MPPS	238 MPPS
Buffer memory	2 MB	3 MB	3 MB	3 MB
RAM (DDR3)	1 GB			

 — the device complies with CE requirements

Technical features

	MES5312 ^{CE}	MES5316A ^{CE}	MES5324A ^{CE}	MES5332A ^{CE}
ROM (NAND Flash)			1 GB	
MAC table			32K	
VLAN table			4K	
L2 Multicast groups			4K	
ARP table ¹			8 151	
Link Aggregation Groups (LAG)			32, up to 8 ports per LAG	
Maximum size of ECMP-group			64	
Quality of Service (QoS)			8 egress queues per port	
Number of ACL	6 066		2 996	
Number of L3 IPv4 Unicast routes ²	16 160		16 288	
Number of L3 IPv6 Unicast routes ²	4 040		4 072	
Number of L3 IPv4 Multicast (IGMP Proxy, PIM) ²	8 080		8 144	
Number of L3 IPv6 Multicast (IGMP Proxy, PIM) ²	2 020		2 036	
Jumbo frames size			10 240 bytes	
Stacking			up to 8 devices	

Features and capabilities

Interface features

- Head-of-line blocking (HOL) protection
- Back pressure
- Auto MDI/MDIX
- Jumbo frames
- IEEE 802.3X
- Port Mirroring
- Stacking

MAC address functions

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

VLAN functions

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

L2 Multicast functions

- Multicast groups
- Static Multicast groups
- IGMP Snooping v1,2,3
- Host/port-based IGMP Snooping Fast Leave
- IGMP proxy-report
- IGMP authorization through RADIUS
- Port-based IGMP Snooping Fast Leave

- MLD Snooping v1,2
- IGMP Querier

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)
- Spanning Tree Fast Link option
- STP Root Guard
- BPDU Filtering
- STP BPDU Guard
- Loopback Detection (LBD)
- ERPS (G.8032v2)
- Private VLAN

L3 functions

- Static IP routes
- Dynamic routing protocols RIPv2, OSPFv2, OSPFv3, IS-IS, BGP³
- Address Resolution Protocol (ARP)
- Proxy ARP
- Policy-based routing
- VRRP
- Multicast dynamic routing protocols PIM SM, IGMP Proxy
- ECMP

Link Aggregation functions

- LAG groups creation
- LACP
- LAG Balancing Algorithm
- Multi-Switch Link Aggregation Group (MLAG)

¹ For each host in the ARP table, an entry is created in the routing table

² IPv4/IPv6 Unicast/Multicast routes use shared hardware resources

³ BGP protocol support is provided under licence

Features and capabilities

Ipv6 functions

- IPv6 Host
- Dual-stack

Service functions

- Optical transceiver diagnostics
- Green Ethernet

Security functions

- DHCP Snooping
- DHCP option 82
- IP Source Guard
- Dynamic ARP Inspection
- sFlow
- MAC-based authentication, Port Security, Static MAC entries
- Port-based authentication IEEE 802.1x
- Guest VLAN
- DoS attack prevention
- Traffic segmentation
- DHCP servers protection
- DHCP clients filtering
- BPDU attack prevention
- NetBIOS/NetBEUI filtering

Access Control Lists (ACL)

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

Quality of Service (QoS) and rate limiting

- QoS statistics
- Shaping, Policing
- IEEE 802.1p Class of Service
- Storm control for different traffics (broadcast, multicast, unknown unicast)
- Bandwidth management
- Strict Priority and Weighted Round Robin (WRR) scheduling algorithms
- Three marking colors
- ACL-based traffic classification

Management functions

- Configuration and firmware files download and upload via TFTP
- SNMP
- Command Line Interface (CLI)
- Web-interface
- Syslog
- SNTP (Simple Network Time Protocol)
- Traceroute
- LLDP (802.1ab) + LLDP MED
- LLDP (IEEE 802.1ab)
- Access control – privilege levels
- Management ACL
- Management interface blocking
- Local authentication
- IP addresses filtering for SNMP
- RADIUS/TACACS+ client (Terminal Access Controller Access Control System)

- Telnet and SSH servers
- Telnet and SSH clients
- SSL
- Macrocommands
- System log
- DHCP autoprovision
- DHCP Relay (IPv4 support)
- DHCP Option 12
- Flash File System
- Debugging commands
- Traffic to CPU rate limiting
- Password encryption
- Password recovery
- Ping (IPv4/IPv6)





Monitoring functions

- Interface statistics
- RMON/SMON remote monitoring
- IP SLA
- CPU utilization monitoring per task and per traffic type
- Temperature monitoring
- TCAM 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 IEEE 802.3 MAU MIB
- RFC 2674, 4363 IEEE 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 for Multi-Part messages
- RFC 793 TCP
- RFC 2474, 3260 DS field detection in IPv4 and IPv6 header
- RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)
- RFC 2571-2574 SNMP
- RFC 826 ARP
- RFC 854 Telnet

Physical parameters

	MES5312 	MES5316A 	MES5324A 	MES5332A 
Physical parameters and environmental features				
Power supply	AC: 100-240 V, 50-60 Hz DC: 36-72V Power supply options: <ul style="list-style-type: none"> • 1 AC/DC power supply • 2 hot-swappable AC/DC power supplies 			
Input current	0.3–0.2 A for AC 0.6–0.3 A for DC	0.7–0.3 A for AC 1.5–0.75 A for DC	0.85–0.4 A for AC 2.0–1.0 A for DC	0.85–0.3 A for AC 2.0–0.9 A for DC
Maximum power consumption	25 W for AC 23 W for DC	58 W for AC 54 W for DC	73 W for AC 70 W for DC	74 W for AC 69 W for DC
Operating temperature	from -10 to +45°C			
Storage temperature	from -50 to +70°C			
Operating humidity	80% max			
Cooling	Front-to-Back, 4 fans	Front-to-Back, 4 fans	Front-to-Back, 4 fans	Front-to-Back, 4 fans
Form factor	19", 1U			
Dimensions (WxHxD)	430x44x230 mm	430x44x275 mm	430x44x275 mm	430x44x275 mm
Weight	3.8 kg	3.6 kg	3.7 kg	3.8 kg


Ordering information

Name	Description	Image
MES5312	MES5312 Ethernet switch, 1x10/100/1000BASE-T (OOB), 12x10GBASE-R (SFP+)/1000BASE-X (SFP), L3	
MES5316A	MES5316A Ethernet switch, 1x10/100/1000BASE-T (OOB), 16x10GBASE-R (SFP+)/1000BASE-X (SFP), L3	
MES5324A	MES5324A Ethernet switch, 1x10/100/1000BASE-T (OOB), 24x10GBASE-R (SFP+)/1000BASE-X (SFP), L3	
MES5332A	MES5332A Ethernet switch, 1x10/100/1000BASE-T (OOB), 32x10GBASE-R (SFP+)/1000BASE-X (SFP), L3	

Related products

PM160-220/12	PM160-220/12 power module, 100-240 V AC, 160 W	
PM100-48/12	PM100-48/12 power module, 36-72 V DC, 100 W	

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About Eltex

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