– Bandwidth 800 Gbps
– Non-blocking architecture
– 24 × 10G ports, 4 × 40G ports
– L3 switch
– Stacking up to 8 devices
– Hot-swappable redundant power supplies
– Hot-swappable fans
– Front-to-Back cooling

MES5324 switches are high performance devices with 10GBASE-R and 40GBASE-SR4/LR4 interfaces that can be used as aggregation switches in carrier networks and as Top-of-Rack or End-of-Row switches for data centers.

The device's ports support operation at rates of 1 Gbps (SFP), 10 Gbps (SFP+) and 40 Gbps (QSFP) that provides flexible using and ability of smooth 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 together with advanced hardware monitoring functions provide high network reliability and uninterrupted services.

MES5324 switches comply with CE requirements.

Technical features

Interfaces	
10GBASE-R(SFP+)/1000BASE-X (SFP)	24
40GBASE-SR4/LR4 (QSFP)	4
10/100/1000BASE-T (OOB)	1
10/100/1000BASE-T (In-band management)	1
Console port RS-232 (RJ-45)	1
Performance	
Bandwidth	800 Gbps
Throughput for 64 bytes[1]	512.8 MPPS
Buffer memory	4 MB
RAM (DDR3)	4 GB
ROM (NAND)	2 GB
MAC table	64536
ARP table[2]	7744
VLAN table	4094
L2 Multicast groups	4091
SQinQ rules	1982 (ingress/egress)
ACL rules	1982
L3 IPv4 Unicast routes[3]	7748
L3 IPv6 Unicast routes[3]	1942
L3 IPv4 Multicast routes (IGMP Proxy, PIM)[3]	3876

[1] *The value is given for one-way transmission.*
[2] *For each host in the ARP table, an entry is created in the routing table.*
[3] *IPv4/IPv6 Unicast/Multicast routes share hardware resources.*

Technical features (continued)

L3 IPv6 Multicast routes (IGMP Proxy, PIM)[1]	1006
VRRP routers	255
Maximum size of ECMP groups	64
VRF	16 (including default VRF)
L3 interfaces	2048
Link Aggregation Groups (LAG)	48
Quality of Service (QoS)	8 egress queues per port
Jumbo frames	10240 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 (SPAN, RSPAN)
– Stacking

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

VLAN functions
– Voice VLAN
– IEEE 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
– Loopback Detection (LBD) per VLAN
– ERPS (G.8032v2)
– Flex-link
– Private VLAN, Private VLAN Trunk
– Layer 2 Protocol Tunneling (L2PT)

L3 functions
– Static IP routes
– RIPv2, OSPFv2, OSPFv3, IS-IS (IPv4 Unicast), BGP[2] (IPv4 Unicast, IPv4 Multicast, IPv6 Unicast)
– BFD (for BGP)
– Address Resolution Protocol (ARP)
– Proxy ARP
– Policy-Based Routing (IPv4)
– VRRP
– PIM SM, PIM DM, IGMP Proxy, MSDP
– ECMP Load Balancing
– IP Unnumbered
– GRE
– VRF Lite

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

Security functions
– Protection against unauthorized DHCP servers (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
– DHCP clients filtering
– BPDU attack prevention
– NetBIOS/NetBEUI
– PPPoE Intermediate agent

[1] *IPv4/IPv6 Unicast/Multicast routes share hardware resources.*
[2] *BGP protocol support is provided under license.*

Features and capabilities

IPv6 functions
– IPv6 Host
– Dual-stack

Service functions
– Virtual Cable Testing (VCT)
– Optical transceiver diagnostics
– Green Ethernet

Quality of Service (QoS)
– 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) algorithms
– Three marking colors
– ACL-based CoS/DSCP assignment
– ACL-based VLAN assignment
– Setting the IEEE 802.1p priority for management VLAN
– DSCP to CoS/CoS to DSCP remarking
– 802.1p, DSCP mark assignment for IGMP

OAM
– 802.3ah Ethernet OAM
– 802.1ag Connectivity Fault Management (CFM)
– 802.3ah Unidirectional Link Detection

ACL (Access Control List)
– 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

Management functions
– Download and upload of configuration file via TFTP/SCP/SFTP
– Redirecting the output of CLI commands to an arbitrary file on ROM
– SNMP
– Command Line Interface (CLI)
– WEB interface
– Syslog
– SNTP (Simple Network Time Protocol)
– NTP (Network Time Protocol)
– Traceroute
– LLDP (802.1ab) + LLDP MED
– Processing traffic management with two 802.1Q headers
– Authorization of entered commands using TACACS+ server
– Access control – privilege levels
– Management interface blocking
– Local authentication
– IP addresses filtering for SNMP
– RADIUS and TACACS+ (Terminal Access Controller Access Control System) clients
– Change of Authorization (CoA)
– SSH server, Telnet server
– SSH client, Telnet 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)
– DHCP server
– PPPoE Circuit-ID tag
– Debugging commands
– Rate limit of traffic to CPU
– Password encryption
– Password recovery
– Ping (IPv4/IPv6 support)
– DNS server (Resolver)

Monitoring functions
– Interface statistics
– RMON/SMON
– IP SLA
– CPU utilization monitoring per task and per traffic type
– RAM utilization monitoring
– Temperature monitoring
– TCAM utilization 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 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 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 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 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
– IEC 61850

Physical specifications

Physical specifications and environmental parameters	
Power supply	100–240 V AC, 50–60 Hz; 36–72 V DC Power supply options: • 1 AC/DC power supply • 2 AC/DC hot-swappable power supplies
Input current	0.85–0.35 A for AC 2.36–1.18 A for DC
Maximum power consumption	107 W
Heat dissipation	107 W
Hardware support for Dying Gasp	no
Operating temperature	from 0 to +45 °C
Storage temperature	from -50 to +70 °C
Operating humidity	no more than 80 %
Cooling	Front-to-Back, 4 fans
Form factor	19'', 1U
Dimensions (W × H × D)	430 × 44 × 298 mm
Weight	3.95 kg

Ordering information

Name	Description
MES5324	MES5324 Ethernet switch, 1 port of 10/100/1000BASE-T (OOB), 1 port of 10/100/1000BASE-T (Management), 24 ports of 10GBASE-R (SFP+)/1000BASE-X (SFP), 4 ports of 40GBASE-SR4/LR4, L3 switch
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
Related software	
ECCM-MES5324	ECCM-MES5324 option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES5324

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About ELTEX

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